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# EVA's GLOBAL SCENARIOS

## Playing fields of the future

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# Contents

- 1. Introduction**
- 2. Critical questions and uncertainties**
- 3. Four global scenarios**
- 4. Comeback of the West**
  - a) Summary
  - b) Global development
  - c) European development
  - d) State of the world in 2020
- 5. Chinese capitalism**
  - a) Summary
  - b) Global development
  - c) European development
  - d) State of the world in 2020
- 6. Battle of the blocs**
  - a) Summary
  - b) Global development
  - c) European development
  - d) State of the world in 2020
- 7. Stimulus and collapse**
  - a) Summary
  - b) Global development
  - c) European development
  - d) State of the world in 2020
- 8. Implications of scenarios on Finland**
- 9. Continuities and certainties**
- 10. Project organization**
- 11. Making use of EVA's global scenarios**

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**PART 1**

**Introduction**

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# Introduction

We live in unusual times.

In the short run the world is struggling with an economic crisis. In the longer run the challenges are climate change, demographic changes and the availability of energy and raw materials.

This is not all. The government's role in the economy is strengthening. Protectionism is increasing. Changes in the world economy and politics are huge.

EVA's global scenarios present four different alternative depictions of the future operative environment and their possible impacts on Finland.

The scenarios are not forecasts but rather possible worlds. With them we can prepare for the future and seize opportunities.

Some things do not change from one scenario to the other. At the end of the report there is a list of things that must be developed regardless of the world in which we live.

The main sponsor of the EVA Global Scenario project has been Tekes, the Finnish Funding Agency for Technology and Innovation. In addition to Tekes, the

participants include STTK, Sitra and eight companies: Componenta, F-Secure, Fortum, Kone, Metso, Rautaruukki, UPM-Kymmene and Wärtsilä. The top leaders of these organizations have formed the steering group of the project. The members of EVA's board of directors have also participated in discussing the possibilities for the future.

The project has been carried out in the scenario group, the dynamo of which has been EVA Communications Manager Annika Ahtonen. Capful has been responsible for the project planning, supervision and application of scenario methods. Annika Ahtonen from EVA and Founding Partner Arto Kaunonen from Capful have been responsible for writing and documentation of the scenarios. In addition, dozens of experts have participated in the project. Warm thanks to everyone!

Thanks also go to McKinsey & Co, whose analyses provided the study's base for global trends and to Pöyry, whose climate and energy scenarios helped crystallize our thoughts greatly.

In addition to the summary report, EVA has published the writer Juha Itkonen's fictional descriptions of what it would be like to live in these different scenarios.

In Helsinki 16.3.2009

Risto E. J. Penttilä

## Steering group members

| Name                           | Title             |
|--------------------------------|-------------------|
| Risto E. J. Penttilä, Chairman | Director          |
| Matti Alahuhta                 | President and CEO |
| Kimmo Alkio                    | President and CEO |
| Jorma Eloranta                 | President and CEO |
| Ole Johansson                  | President and CEO |
| Heikki Lehtonen                | President and CEO |
| Mikael Lilius                  | President and CEO |
| Mikko Mäenpää                  | President         |
| Jussi Pesonen                  | President and CEO |
| Veli-Pekka Saarnivaara         | Director General  |
| Sakari Tamminen                | President and CEO |

## Consultants

| Name          | Title             |
|---------------|-------------------|
| Arto Kaunonen | Founding Partner  |
| Jari Puhakka  | Managing Director |

## Scenario group members

| Name                     | Title   | Organization  |
|--------------------------|---|---|
| Annika Ahtonens          | Communications Manager                                    | Finnish Business and Policy Forum EVA                           |
| Anu Ahola                | Executive Vice President, Strategic Planning              | KONE Corporation  |
| Per Hansson              | Vice President, Corporate Planning                        | F-Secure Corporation  |
| Mika Hassinen            | Chief Financial Officer                                   | Metso Corporation   |
| Timo Hämäläinen          | Sitra Fellow, Strategic Research                          | Wärtsilä Corporation  |
| Leila Kostiainen         | General Secretary   | Componenta Corporation  |
| Pirjo Kyläkoski          | Foresight Manager   | The Finnish Confederation of Professionals STTK                 |
| Maria Paatero-Kaarnakari | SVP, Corporate Strategy                                   | Tekes, The Finnish Funding Agency for Technology and Innovation |
| Antti Pirinen            | Assistant Vice President, Market and Strategy Development | Fortum Corporation  |
| Antti Reijonen           | VP Strategy   | Rautaruukki Corporation   |
| Kalle Reponen            | Senior Vice President, Strategy and M&A                   | F-Secure Corporation  |
| Marko Somermaa           | Chief Strategy Officer                                    | Metso Corporation   |
|                          |   | Rautaruukki Corporation   |

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**PART 2**

**Critical questions and uncertainties**

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# Critical questions and uncertainties

The following critical questions and uncertainties in the global operative environment are reflected in the scenarios in different ways.

- **International cooperation:** Will decision makers' views converge or diverge?
- **World trade:** Is there a convergence of markets, globalization and free trade or closing of markets and growth of protectionism.
- **Centre of social and economic reforms:** Is the centre of reform in the US and OECD countries or in China, India, Brazil, and the Middle Eastern oil producing countries?
- **World economy crisis:** How deep will we go, how long will the economic crisis last and how fast will we recover?
- **Geopolitics, international relations and geographical regions:** What conflicts, alliances and changes in power politics are to be expected?
- **Ecological imbalances' rate and strength of change:** How will climate change, environmental catastrophes, pandemics, migration and possible scarcity of raw materials, food and clean water affect the environment where we operate?
- **Energy and raw materials:** How will availability and prices develop? How efficiently can energy and raw materials be produced and used?
- **Technology:** How will the environment and internet technology develop? Will they bring new solutions?
- **Competitions for experts:** How hard will the competition be for the best brains and hands?
- **Values, religion, culture and terrorism:** How does the appreciation for sustainable development, leisure time and communities shape values and lifestyles? How will the significance of religion, multiculturalism and terrorism change?

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**PART 3**

**Four global scenarios**

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# Four global scenarios

**Comeback of the West**

**Chinese capitalism**

**Battle of the blocs**

**Stimulus and collapse**

# Summary | Development of economic crisis until 2013

## Comeback of the West

- The US and main OECD countries rebound surprisingly quickly from the economic crisis.
- The Asian tigers wrestle with internal problems but their economies continue to expand as world growth picks up.
- International financial architecture undergoes reforms under the West's leadership but not on their terms. Key institutions are World Bank, IMF together with G8+5 and G20.
- The role of the euro as a reserve currency grows relative to the dollar. China and other leading countries diversify into other reserve currencies.
- Global GDP growth in 2009-2013: 1-3%

## Battle of the blocs

- World economic crisis is deep and prolonged.
- US recovers slowly from recession. Dollar remains a global reserve currency and main currency of commodities trade.
- Slow economic growth of China and India causes huge internal problems.
- International economic institutions are not reformed. G20 does not get a significant role.
- Sector-specific support and protectionism – cooperation between blocs occurs via agreements.
- Competing devaluations increase inflation.
- Russia and Europe find one another (energy and technology).
- Global GDP growth in 2009-2013: 0-2%

## Chinese capitalism

- Led by China, Asia recovers from financial crisis faster than the West.
- Nosedive in China and India not as deep as in US and EU.
- A new global division of ownership is spawned by the financial crisis: ownership shifts to a greater extent to China and OPEC countries in the Middle East.
- The significance of the USD as a reserve currency weakens relative to the euro, yuan and other main currencies.
- The interdependent Asian countries become more integrated and tighten their monetary policy stance.
- Global GDP growth in 2009-2013: 2-4%

## Stimulus and collapse

- Economic crisis leads to prolonged period of sluggish growth around the world. Protectionism increases.
- Socialization of debt and stimulatory measures do not work.
- Distress of US real economy erodes faith of debt financiers in solvency of economy. Selloff of US bonds leads to collapse of dollar. Devaluation of the dollar by 90% does not boost exports but rather spurs inflation. The US economy plunges into a deep recession and the international position of the country collapses. Impact on global economy is significant.
- Global GDP growth in 2009-2013: -1-+1%

# Summary | World in 2020

## Comeback of the West

- Market economy and democracy are fostered under leadership of Western countries.
- International institutions undergo reforms under the West's leadership but not on the West's own terms.
- The US economy recovers and influence is restored but the time of hegemony is over. The political role of the EU strengthens.
- Technology and innovation boost efficiency and productivity. Headway is made also in curbing climate change.
- Productivity increases in the West but more important than profits are welfare of individuals and society. The social responsibility of corporations gains greater emphasis.

## Chinese capitalism

- The focal point of economic reforms shifts to Asia, Middle Eastern OPEC countries and market-driven knowledge networks.
- World of strong economic growth. Global GDP growth in 2020: 4-6 %.
- Opportunism and capitalism without democracy.
- Pacific Ocean governments act as driving forces in controlling climate change.
- The significance of traditional international institutions (UN, IMF, World Bank) wanes.
- EU is politically dysfunctional but European international companies are performing well.

## Battle of the blocs

- Rise of regional trade blocs, geopolitics and state capitalism.
- Economic regions turn inwards and self-sufficiency becomes increasingly important. US becomes isolated.
- Russia and Europe find one another (energy and technology). The focal point of social and economic reforms has shifted to Europe.
- International cooperation bogs down.
- Emphasis in controlling climate change is local.

## Stimulus and collapse

- Old countercyclical remedies cannot cure the global economic crisis. World of sluggish economic growth.
- The international position of US has been undermined, and no country or bloc can fill the leadership void.
- Protectionism and strong national interests lead to crippling of international cooperative structures.
- Regional conflicts, pandemics and mass migration.
- European competitiveness has deteriorated. EU exists only nominally. Relations with Russia are problematic.



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PART 4

Comeback of the West

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# Comeback of the West | Summary

## Development of economic crisis

The world-wide economic crisis is severe but by the year 2013 the recession is remembered as a blemish on the continuous path of economic growth that has lasted several decades.

The US economy recovers first, pulling Europe along in its wake.

Asia's engines of growth do not survive the economic crisis unharmed. China and India in particular wrestle with internal problems: unemployment, migration and social unrest increase. Asia recovers but not very rapidly.

The International Monetary Fund (IMF) and the World Bank are reformed. G20 gains a special status. International financial supervision is made more stringent, so that the markets' internal trust can be restored.

The better combining of work and leisure time raise productivity in the Western countries. New technologies are adopted quickly.

## World in 2020

The market economy and democratic alliance are strong. The same stands for US and EU cooperation. The US is the most important international player but the time of hegemony is over. International institutions are reformed "under the West's leadership but not on the West's terms".

Both the European Union and the euro area have expanded and the internal markets work. Defence cooperation takes place via NATO.

Africa's renaissance has started slowly but surely. Mobile technology, development cooperation and free trade have made Africa a part of the positive global development.

High oil prices boost economic growth of Russia but the country has not been able to diversify its economy.

The control of climate change is taken seriously. International agreements, markets and technology are part of the solution – not part of the problem.

Ethical capitalism strengthens. The quality of employment relationships improves in Asia, which slows down economic growth in China and India. Asia rises but more slowly than the boldest forecasts lead us to believe.

# Comeback of the West | Global development

## Disaster and a miracle

2009-2011

- The global credit crunch deepens.
- In China and elsewhere in Asia the economic crisis leads to huge internal problems (unemployment, migration). Indian corporations are caught for accountancy crimes and many go bankrupt.
- Government leaders react to the situation strongly. An understanding is formed between business leaders and politicians: lines must be formed on an international level.
- The flexible economy of the US recovers. The debt bomb is disabled, inflation is kept in check.
- The stimulatory measures of countries are successful and the financial markets are restored to working order.
- Optimism leads to a new rise in US stock prices. In the housing market prices stop falling.
- The extreme situation leads to practical solutions: The IMF and the World Bank are reformed. International financial surveillance will be tight yet functioning. The internal confidence of the markets is restored.
- Russia becomes a member of the WTO.
- In Barack Obama's term multilateralism is emphasized in the control of foreign relations. Relations with Russia improve.

## International institutions reformed

2012-2015

- The economic crisis proves to be financially driven and the real economy grows again. The U.S. economic crisis eases by 2012.
- The international community succeeds in managing the economic crisis. Governments see new possibilities in international cooperation, and this generates a positive wave of reform in the main organizations.
- Diplomacy is emphasized in preventing terrorism. Western countries and the "host countries" of terrorists unite forces.
- As the world economy brightens up China and India strive for similar economic growth as before. However the weak union of democracy and the market economy, bankruptcies and emphasizing human rights issues in trade relations weaken China's situation.
- The middle class of developing economies grows, which leads to narrowing differences in standards of living and furthering democracy
- People's values and attitudes change globally. Gradually the behaviour of consumers and voters begins to change political decision making, legislation and business activity.
- Global growth of GDP in 2009-2013: 1-3%.

## Democracy and market economy

2016-2020

- International organisations have been reformed. The G8 is now the G20 and the operations of the organisations of the UN have been made more effective. National governments surrender political power to international organizations.
- Controlling climate change is more effective through R&D investments, legislation and market mechanisms: common emission targets are taken into use and a global price is set for emission rights.
- Raw material intensity and energy consumption have decreased. Consumption habits and production methods favour the efficient use of resources.
- The high price of oil bolsters Russian economic growth but despite trying government leaders have failed in their attempts to renew the economy.
- Pressures to strengthen the union of democracy and market economy increase around the world.
- The corporate social responsibility is emphasized worldwide. The quality of employment relationships has improved – also in Asia. This slows down the economic growth of both China and India.
- Global growth of GDP in 2020: 3-4%.
- The price of oil is high: 100-150 dollars a barrel.

# Comeback of the West | European development

## Disaster and a miracle

2009-2011

- The EU experiences a deep downturn financially as well as politically and finds the US as a partner at the bottom – common ground will be found.
- The EU-policy concentrates on the functioning of the internal markets and global free trade.
- The Lisbon Agreement is approved and a president will be chosen for the EU.
- Iceland joins the EU and Sweden joins EMU.
- The state's role as a large actor in market economy strengthens.
- The low price of oil leads to vast difficulties in Russia: wages and pensions cannot be paid, which results in widespread social unrest.
- Youth in different parts of Europe become politically active. Large youth demonstrations and civic action take place.
- Young people seek reformist lead figures.
- Appreciation for a balance between work and leisure time increases.
- A large amount of well-educated people especially in the finance sector are forced to seek new job opportunities. Renaissance of small entrepreneurs as a part of the change of ideologies.
- Investments into environmental technology are an important part of recovery packages also in Europe.

## International institutions reformed

2012-2015

- The European Rapid Reaction Forces are dismantled. Positive attitudes towards NATO increase.
- Ethical capitalism becomes popular. Maximizing the welfare of the community rather than profits becomes the main objective.
- Ethical investment becomes the mainstream of new market economy.
- Rise of family businesses and owners with a human face.
- Large investments into the development of the innovation environment and innovations in technology and business models.
- Joining different networks generates new centres of know-how.
- Fresh faces born in the 1970s rise to the top of politics and business. They are backed by the youth.
- The concept of constitutional state and the rule of law raises voices of disagreement in Russia.
- Russian state capitalism does not essentially differ from Western.
- As large age-groups move on to retirement a crises in the healthcare system breaks out as the public finances and funding problems overload.
- The labour market becomes an employees' market: employers are forced to attract people.
- Carbon-free consumption becomes a significant demand-steering force.

## Democracy and market economy

2016-2020

- The EU is financially dynamic and politically strong. The decision-making of the EU becomes more effective.
- Relations between the EU and US are warm.
- The EU has extended and economic growth has developed positively. The Lisbon Strategy and Agenda are fulfilled.
- Norway and Croatia join the EU. The EU membership negotiations with Turkey and Ukraine proceed in a positive atmosphere.
- Internal market development deepens.
- Relations between Russia and the EU develop favourably driven by energy issues.
- The new economic and political elite of Russia are developing the country into a constitutional state. This generates investment into infrastructure and the development of industry.
- Massive investments are made into environmental technology in order to reach the climate objectives of the EU.
- The productivity of the public sector is boosted with new operative models, technologies and outsourcing.
- The choices and behaviour of individuals are steered by the desire to act as a part of self-selected communities.
- The significance of a company's values is an asset in the competition for labour.

# Comeback of the West | State of the world in 2020 (1/4)

| Comeback of the West   State of the world in 2020 (1/4) |  |
|---|--|
| <b>Centre of social and economic reforms</b>            | The US and certain OECD countries have been able to renew their economies fuelled by entrepreneurship and innovations. The role of venture capitalists in the world economy is significant. The international financial architecture has been updated under the leadership of the West but not on its terms. The G8+5, G20, IMF and the World Bank are key actors.   |
| <b>World economy</b>                                    | Open global markets foster the growth of the world economy. In the era of ethical capitalism, maximizing welfare instead of profit is the objective. The economic system is being renewed with powerful global level policies. The amount of currencies will decrease. For example Poland, Iceland, Norway and Sweden have joined the EMU. The economic crisis is only a distant memory after the quick recovery of the US and OECD countries. Despite internal conflicts the economies of the Asian engines of growth have recovered in the rest of the world's wake. The middle class of developing economies continues to grow, which strengthens democracy and leads to smaller differentials in living standards. The productivity of the public sector grows. Growth of the global GDP in 2009-2013: 1-3% and 2014-2020: 3-4%.                 |
| <b>International relations and geopolitics</b>          | Global economic, ecological and political problems are solved through international co-operation. Traditional geopolitics has been losing significance; economic power has taken the place of military power. The emphasis of geopolitics moves from raw materials to innovations. Russia is Western oriented. A politically driven world where key international forms of co-operation are renewed: the IMF becomes caretaker of insolvent states, the UN Security Council is reformed and the G8 becomes the G20 (incl. e.g. India, China and Brazil). The EU has significant political power, the US is the most significant military power. The European Rapid Reaction Forces have been dismantled and all the EU member states have joined NATO.   |
| <b>Climate change</b>                                   | Preventing climate change becomes more effective through R&D investments, legislation, market mechanisms and investments. Environmental policies are carried out on a global level instead of national and regional levels: a global price for emission rights and a worldwide CO <sub>2</sub> tax. The consensus on the Copenhagen Climate Treaty acts as a loose framework. The "Axis of Good" of the US and EU harness market mechanisms to slow down climate change, the main responsibility being carried by businesses and individuals. Consumption behaviour changing along with the change of values slowly mold decision making, legislation and business operations. The change is also aided by new technologies. The cooperation of the automobile and oil industries breaks down and increasing use of electricity decreases emissions. |

# Comeback of the West | State of the world in 2020 (2/4)

| Comeback of the West   State of the world in 2020 (2/4) |   |
|---|---|
| <b>Energy and raw materials</b>                         | Raw material and energy intensity have decreased. Prices are high but due to high energy efficiency, new production methods and consumer behaviour they do not kill economic growth. Distribution of electricity becomes easier and oil consumption falls. Investments are made in nuclear power. Crude oil prices in 2020 are 100-150 dollars per barrel.  |
| <b>Innovations</b>                                      | It is understood that the creation of innovations requires divergent visions. The creative class and professionals both in the financial sector and in the networks (Silicon Valley, Israel, Japan, Cambridge, Aalto) have a significant role as innovators and facilitators of economic growth. Active participation by the end users in the innovation work eases the creation of commercial products and services. Innovations intended for developing markets increase. The internet expedites business activities. Social media are heavily used. A dynamic innovative environment and efficient production promote the renewal of business processes: the significance of intellectual property rights (IPR) decreases. Co-operation between the private and public sector works: companies benefit from public sector research and vice versa. |
| <b>Environmental technology</b>                         | Technology and know-how distribution bring solutions: energy efficiency improves, carbon capture and storage is in production. Development speed and being user-oriented are emphasized: innovations are driven by markets and demand.  |
| <b>Internet technology</b>                              | The internet functions as a network, where new innovations are spawned. It also works as a marketplace. Web-based business requires non-traditional operative models. The internet allows for the public administration to become more effective. The web has a significant role in the reform of the concept and content of work. Global voluntary work based on open source code is a significant phenomenon.   |
| <b>Competition for experts</b>                          | The gap between the skilled and unskilled grows. The competition for raw materials (oil) is not as important as competition for know-how. Those with skills will move partly back to Western concentrations of expertise after the labour markets of developing economies have turned out to be disappointments. The competition for the best expertise is strongest between businesses, countries and different regions. Skilled workers join know-how centres or their networks. Versatility is valued.   |
| <b>Values, religion and culture</b>                     | As the corporate social responsibility and ethical capitalism strengthens, the welfare of society becomes a more important objective than profit maximization. People have greater appreciation for sustainable development and leisure time. This leads to renewal of traditional management models. Cooperation and trust between different religions and cultures grow. The solving of supranational problems and common interests are more important than focusing on differences. A sufficiently large portion of people from different cultures share the same experience of a common world.  |

# Comeback of the West | State of the world in 2020 (3/4)

| Comeback of the West   State of the world in 2020 (3/4) |  |
|---|--|
| <b>Terrorism</b>  | Western countries and “host countries” of terrorists (Pakistan, Afghanistan and Iraq) have united forces in the battle against terrorism: the EU and the US assist financially in the development of the societies (education, water, infrastructure) and the locals succeed in their battle against fundamentalism. Computer and internet terrorism is a significant threat. The committers are small groups of unemployed and bright young people, for example, from India and Romania.  |
| <b>US's development</b>                                 | The appreciation of the US is restored but the country has not reached its former superiority as a hegemony. The US and OECD countries recovered surprisingly quickly from the financial crisis. The US, EU and certain OECD countries have been able to renew their economies.  |
| <b>Russia's development</b>                             | The high price of oil has fostered Russian economic growth but despite the efforts the country's leaders have failed in the reform of the economy and diversifying the economic base. Additional burdens include slow population growth and the drop of the life-time expectancy. After gaining WTO membership Russia has begun to attract Western investments in order to make its business structure more versatile. No new export tariffs, no use of the “oil/gas weapon”. Instead relations between Russia and the EU develop positively regarding energy issues and visa-free travel. Russia sets EU membership as its goal. The EU and Russia have reached an understanding regarding Georgia and Ukraine. The countries do not join NATO and in turn Russia has accepted Ukraine's and Georgia's dreams of EU membership. |
| <b>EU's development</b>                                 | The EU is economically dynamic and politically strong. EU decision-making has become more effective. The relations between the EU and the US have become warmer. The EU has expanded and economic growth has developed positively. The Lisbon Strategy and Agenda will be fulfilled. The amount of currencies decreases in Europe: e.g. Iceland, Croatia, Norway, Poland and Sweden have joined the EMU. The EU membership negotiations of Turkey and the Ukraine are progressing. The euro's role as a reserve currency strengthens in relation to the dollar and the euro area remains strong.   |
| <b>China's development</b>                              | Chinese economic growth is positive but not reckless. This stems from the loss of its status as a source of cheap labour: pressure to strengthen the union of market economy and democracy has grown and the quality of work relations has improved. The monopoly of the Communist Party of China has been challenged and it is forced to reform under huge economic and social pressures. Reforms pave the way for political diversity, semi-free elections and partial freedom of the press.   |

# Comeback of the West | State of the world in 2020 (4/4)

| Comeback of the West   State of the world in 2020 (4/4) |   |
|---|---|
| <b>Japan's development</b>                              | Economic reform spurred by the economic crisis is successful. Exports of high-tech products are performing well and economic growth is around 3 per cent in 2015. The military power and influence of China grows in the area, which constitutes a difficult situation for Japanese leaders. Japan seeks security from the US, increases its missile defences and engages in military co-operation with South-Korea.  |
| <b>India's development</b>                              | Decelerated economic growth causes grave internal crises, which the society will suffer from for a long time. The one-sided nature of education and mass-unemployment worsen the situation. The infrastructure is inadequate and output is modest. The political and economical competition between India and China continues. India seeks security in closer relations with the US.  |
| <b>Middle East's development</b>                        | Integrating Islam and local traditional values with economic growth and modernization are emphasized simultaneously, as occurs nowadays in Turkey and the Persian Gulf monarchies. Progress in Turkey's EU membership negotiations brings new dynamics to Middle East and EU relations. Turkey begins to act as a bridge-builder between the EU and Middle East.  |
| <b>Latin America's development</b>                      | The relative emphasis of South America and especially Brazil in the world economy grows as a producer of oil, gas, bio-fuels and other alternative forms of energy. Also Chile benefits from this development. Political instability in Columbia and Mexico weakens the efficient development of assorted forms of energy.  |
| <b>Africa's development</b>                             | Open global markets as well as investments by the development program of the UN, the World Bank and international businesses to decrease poverty and corruption will start to take effect. Relations with the West are based on trade. The view that the corporate social responsibility include human rights issues, local economic development, improving government and developing health care is visible in the operation of Western businesses in Africa. Investments are made in education and agriculture becomes more efficient. Africa will unite as an entity with a strong identity. Strong leadership is found for the African Union and development is towards a more peaceful "European Union" of Africa. The productivity of African countries rises. Pandemics, wars, poverty and corruption are being brought under control. Political, traditional and religious authorities are teaming up; resources are more evenly distributed than at present. A free university is opened up in South Africa, where young talented Africans receive scholarships. Funding comes e.g. from African intelligentsia residing in Western countries. |



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PART 5

Chinese capitalism

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# Chinese capitalism | Summary

## Development of economic crisis

China and India do not suffer from the economic crisis as much as Europe and the US. When the upturn begins, it begins with Asia as its leader.

Growth is swift and it bolsters also the US and Europe. When oil prices rise, this provides a boost also to the OPEC countries, Russia and Norway.

The significance of the USD as a reserve currency weakens relative to the euro, yuan and other main currencies.

Rich Asian and OPEC countries go company shopping in the West, where the investment targets are cheap. The global redistribution of ownership proceeds.

Strong economic growth and recovery of consumer demand create possibilities for companies in Europe as well as in the US.

## World in 2020

Capitalism without democracy.

Knowledge centres and networks are more important economic actors than governments.

The new-market driven world benefits especially China. Its rapidly growing middle class dominates consumption and development. It does not demand democracy but rather clean air and economic growth. China invests increasingly greater sums in production of clean coal, solar panels and electric cars.

The EU is politically dysfunctional, and its institutions have lost their power. The EU nevertheless continues as an economic area and the common currency is preserved. European concentrations of expertise are successful at networking with Asian and Middle Eastern centres. Russia has shifted its focus on the Asian markets.

The ground-rules of international cooperation and trade have changed. The significance of traditional international institutions such as the UN, WTO, IMF and World Bank has diminished.

# Chinese capitalism | Global development

## Eastern miracle continues

2009-2011

- Led by China, Asia recovers from the financial crisis faster than the West. China and India are not hit as badly as US and EU.
- The Chinese government's sizable recovery package (20% of GDP) gives the world a countercyclical boost and ensures the continuation of economic growth.
- China's domestic demand expands, the amount of foreign investment into the country increases, and exports especially to Asia and the Middle East pick up. Chinese society is stabilized with programs that increase e.g. social security.
- In India the unity of the political system, support of the agrarian society and strong internal markets foster a swift upswing.
- The crisis gets the wheels of change spinning faster than previously expected: power is rapidly shifting to the East.
- Interdependent Asian countries become more integrated. The monetary policy stance is tightened.
- The significance of the USD as a reserve currency weakens relative to the euro, yuan and other main currencies
- Mergers with Western companies and the new division of global ownership gain momentum.
- Chinese companies seek to become market leaders in strategic sectors (e.g. Huawei).

## New round of globalization

2012-2015

- China's massive surpluses are invested into developed markets.
- Chinese companies' production is concentrated primarily in Western China and Africa.
- Heavy production increases emissions in Asia, which increases people's awareness on environmental issues.
- China invests considerable sums in production of clean coal, solar panels and electric cars.
- Asia's internal markets expand and trade barriers are removed on a regional level. Over half of China's exports go to Asia.
- Economic and military cooperation increases between Russia, China, India and Central Asia within the framework of the Shanghai Cooperation Organisation.
- The significance of knowledge centres grows. Some Western countries and their experts are able to utilise these networks.
- Labour markets of international experts are open and mobility among genuine cosmopolites is great. Experts travel to regions of fast growth: China, India and the OPEC countries of the Middle East.
- Streamlining bureaucracy and decrease in protectionism strengthens Indian economy. New jobs and tasks find their way to India.
- Global GDP growth in 2009-2013: 2-4%.

## Opportunistic capitalism

2016-2020

- The Asia-Pacific Partnership (AP7) is working and there are successful technology transfers between governments of the Pacific Ocean.
- Asian countries form a common currency area AMU and the Middle Eastern countries adopt a common currency Khaleej.
- Chinese exports head for new trade areas: Africa, OPEC countries and Latin America. China's domestic markets strengthen further.
- Especially China's investments in environmental technology start to generate results.
- Multinational companies are strong. But of the Fortune top 500 companies, 150 are already Chinese.
- Japan and China sign a free trade agreement.
- Oil price changes have a considerably smaller impact on economic growth, since oil dependency of Western economies has decreased significantly due to improved energy efficiency.
- Democracy is no virtue by itself, capitalism can function without it. Opportunists do well.
- Multiculturalism increases.
- World of strong growth. Global GDP growth in 2020: 4-6%.
- Oil costs 150-200 dollars per barrel.

# Chinese capitalism | European development

## Eastern miracle continues

2009-2011

- EU-Russia relations become strained due to latter's political ambitions. Russia's economic crisis creates internal pressures and the opportunistic leaders shift their focus to the East.
- Prices of raw materials and oil remain at relatively low levels owing to the dwindling consumption by Western countries.
- Countries stick to their environmental goals. For example, emissions trading weakens the EU's global competitiveness. Conflicts between core and periphery areas escalate. The EU has no means to force member states to follow goals or guidelines (cf. Stability and Growth Pact).
- The EU's internal cooperation has weakened due to the economic recession.
- Europe tops China's and India's emerging economies in terms of wealth per capita but sustaining economic growth is difficult as the workforce shrinks due to aging.
- The EU falls behind from the rapid market-driven development and is not able to follow the changing rules of international cooperation.
- Many large European corporations deem Chinese companies to be their main rivals.

## New round of globalization

2012-2015

- Most of the GDP comes from the service sector and the service labour force from the periphery of the EU, Turkey or Africa.
- Knowledge concentrations and individual companies enjoy the wealth spawned by China's economic growth.
- Asia becomes the new benchmark for flexibility in job markets.
- The aspirations of euro bureaucrats, national governments, corporate executives and ordinary citizens diverge and no common agenda can be found.
- The EU struggles along as an economic area. Member states try to break away from the pack to attract investments.
- European development diverges by region. The peripheral regions undergo difficulties.
- The relative significance of the internal markets has dwindled compared to Eastern trade.
- The national interests of large states complicate the EU's common foreign and security policy. European cooperation with NATO diminishes.
- A severe drought lasting half a year hits southern Europe. The drought leads to an agricultural crisis, squalor and refugee flows. The situation is exacerbated by refugees coming from neighbouring regions. There are local outbreaks of violence and migration to central and northern increases. Freedom of mobility within the EU spurs critical debate.

## Opportunistic capitalism

2016-2020

- Open markets create unlimited growth possibilities also for European knowledge networks and multinational companies.
- Europe does not meet the vision of EU leaders and elite. EU is falling far of becoming an influential global player. Integration together with social cohesion have not developed in the desired manner. The Lisbon Strategy is not implemented.
- Relations with Russia have become strained – Russia aligns itself with OPEC countries and extorts Europe with energy prices. The Russia-China relations strengthen.
- Slavish adherence to emissions trading and other regulations has weakened the EU's competitiveness, especially with relation to China, India and OPEC countries of the Middle East.
- As raw material-based industries and production moves away from Europe, the region's emissions decrease.
- Extremist movements have gained prominence and they create social unrest and insecurity.
- The core EU countries have tightened their cooperation but EU institutions have lost their significance.

# Chinese capitalism | State of the world in 2020 (1/4)

| Centre of social and economic reforms   |   |
|---|---|
|   | China, India and Far Eastern countries have come out of the global economic crisis considerably better than the US and other OECD countries. The economic crisis has spurred the new distribution of global assets: ownership is shifting to China and OPEC countries, especially the Arab Emirates, Saudi Arabia, Qatar and Iran. The significance of the dollar as a reserve currency has weakened relative to Asian currencies. Monetary cooperation is developed both in Asia (AMU) and the Middle East (Khaleej). The Asian motors of growth and wealthy OPEC countries of the Middle East have bought a vast number of banks, they own bonds and have turned into the world's sovereign lenders. Singapore owns already half of the real estate in the centre of London.  |
| World economy                           | The West and Western consumption demand have recovered slowly in Asia's wake. The open markets create unlimited growth possibilities for knowledge networks and multinational companies. World trade functions especially on China's terms and for China's profits. The world has returned to the turbo-capitalism of the 1990s but on China's terms. The ground-rules of international trade and ownership relationships have changed. Trade is booming especially between the countries of Asia and Middle East. The signs of a slowdown in growth are nevertheless prevalent, and dependency on oil should be reduced before a big collapse. Global GDP growth in 2009-2013: 2-4% and 2014-2020: 4-6%  |
| International relations and geopolitics | The ground-rules of international cooperation have changed and the significance of the old world's clubs (WTO, OECD, EU, NATO) has declined. The G20 group has the most significant status as an international organization. The economic and military cooperation between China, India, Russia and Central Asian countries increases within the Shanghai Cooperation Organisation. The US focuses on Asia. World of networks, where city networks and business centres are built around knowledge centres. Market-driven world of global trade, where human rights are of secondary importance. China becomes an economic and military superpower that competes on an equal footing with Western countries. EU-Russia relations are strained. The role of the Middle East grows and the wealthy countries of the region in tandem with China develop into "owners of the world economy". |
| Climate change                          | The emphasis of climate policy shifts to the Pacific (Asia-Pacific Partnership, AP7). As production and emissions have increased, the demands for a clean environment, for example in East-Asia, have grown. Environmental catastrophes around the world have helped people to see the climate change as a global, joint and urgent problem. Consumer behaviour changes as a result of tighter laws and sanctions.  |

# Chinese capitalism | State of the world in 2020 (2/4)

| State of the world in 2020 (2/4)    |   |
|-------------------------------------|---|
| <b>Energy and raw materials</b>     | Demand grows faster than supply; prices skyrocket. OPEC countries (Algeria, Angola, Ecuador, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi-Arabia, United Arab Emirates and Venezuela) raise oil prices. Also the gas price rises. Consumption and production habits change quickly after environmental crises. Asian energy consumption doubles from that in the year 2000 but good relations especially with the Middle Eastern OPEC countries enables the imports of oil. Raw material prices rise to a very high level due to a great demand. There is stronger competition for control of raw materials also on a political level. The price of crude oil in the year 2020 is 150-200 dollars per barrel. |
| <b>Innovation</b>                   | The significance of knowledge centres grows (e.g. Shanghai, Singapore, Stanford, MIT and Aalto). Some Western countries and their experts are able utilise the networks between knowledge centres, and many take part in the innovation work. Multinational companies benefit greatly from international knowledge networks. Productivity is booming.   |
| <b>Environmental technology</b>     | Technological transfers between the countries of the Pacific Ocean is successful. China focuses on the development of clean technology, solar panel production, clean coal plants and electric cars. In the wake of robust economic growth, investments are made also in environmental technology in order to hinder climate change. Scientists know what the nuclear fusion power plant of the future will look like and how it could work.  |
| <b>Internet technology</b>          | The internet develops especially as a means of trade but its full potential is not reached: China and Middle Eastern OPEC countries restrict the use and content of the internet. Human rights are trampled upon.   |
| <b>Competition for experts</b>      | International experts move after money to growth areas and find their way especially to China, India and Middle Eastern OPEC countries. Value added expertise is appreciated. Asian countries buy knowledge on processes (design, project management). In contrast with their parents, the young generation has a command of a global language as well as global communication and cooperation tools.   |
| <b>Values, religion and culture</b> | Economic superiority is a value that unites different religions and cultures. Simultaneously corruption and human rights infringements are real problems especially in China, Russia and Africa. Aggressive and active non-governmental organisations demand companies and Western countries to do more on behalf of human rights.  |

# Chinese capitalism | State of the world in 2020 (3/4)

| <b>Terrorism</b>            | Terrorism does not disappear but its allure diminishes as the economies of the Middle Eastern countries grow and young people find jobs. The improvement of the employment situation and increased political diversity weaken the foundation of terrorist organizations. The significance of Al Qaida diminishes as the organization ages and global support for Islam wanes.  |
|-----------------------------|--|
| <b>US's development</b>     | The credibility of the US and the system it represents has weakened also inside the country. US economic growth creeps along at a slow rate for a long time. The US/USD driven system of global trade undergoes fundamental reform. The US, EU and other OECD countries recover swiftly, fuelled by expanding Asian markets.   |
| <b>Russia's development</b> | Russia quickly orientates itself toward emerging Chinese and Indian markets. The country has close relations with China. Relations with the EU are strained. Customs on timber are followed by export duties on scrap steel. Russian cooperation especially with the "gas OPEC" countries, Iran and Qatar, becomes tighter. Russia is in no hurry nor has a special reason to become a member of WTO. The Russian economy grows but their economic base is slow to renew. Russia does not invest in developing its forest industry and timber flows to China.  |
| <b>EU's development</b>     | The EU is in a recession. The implementation of the Lisbon Strategy has failed. Strict adherence to e.g. regulations on emissions trading have weakened the EU's competitiveness especially with respect to China, India and the OPEC countries of the Middle East. Extremists have gained a foothold and instability has increased. Relations with Russia are strained. The diverging aspirations of euro bureaucrats, national governments, corporate executives and ordinary citizens decrease political willingness to co-operate. The EU's core countries work closely together but EU institutions have lost their significance.   |
| <b>China's development</b>  | China's share of world economic growth and GDP increases faster than predicted. China has no problems related to its financial system, nor is it over-indebted. China offers international companies a huge growth and production potential. Capital and resources are concentrated on China, which spurs development even further. China also invests actively in foreign know-how, which is brought into the country. Cooperation between Middle Eastern and Asian countries increases. China's ties especially to Saudi Arabia strengthen, because only the Kingdom's reserves can satisfy China's thirst for oil. China is the world's largest importer of natural resources and an economic and military superpower that competes on an equal footing with Western countries. The middle class grows. Brisk trade with Asia boosts China's role in the region. China's close trade and family relations with Taiwan, Hong Kong, Singapore, Korea and Malaysia strengthen China as a world power. The strong control of society does not trigger criticism owing to the high productivity. |

# Chinese capitalism | State of the world in 2020 (4/4)

| <b>Japan's development</b>         | China's strong economic growth bolsters Japan's development while also increasing its dependence on China. Japan tries to maintain good political relations with China and facilitate access of its products to its neighbour's vast markets. As the mutual dependence grows, their cooperation takes on new forms. Japan and China have signed a free trade agreement in 2018.  |
|------------------------------------|--|
| <b>India's development</b>         | India's economic growth continues to be robust due to rapid increase in know-how and population growth. India has nevertheless not yet succeeded to pass China in output. Indian companies like Wipro, Mittal and Tata go international and expand. The middle class grows swiftly even though the number of poor people remains large. India develops into another global manufacturing hub alongside China.  |
| <b>Middle East's development</b>   | The Middle East's economic growth is stable and money is invested in the development of the region, which spawns growth and political reforms. Moderate, partly Islamic parties gain more power and seek to prevent regional conflicts. The Gulf Cooperation Council (GCC) finds common ground on questions of security and economic integration. The wealthy countries of the Middle East develop into "owners of the world economy" in tandem with China. The Middle East invests in infrastructure (telecommunications, electricity networks and ports), green technology projects and the financial sector. Oil money provides a starting point for development of the information society. Experts are bought in from abroad. Economic resources turn Saudi-Arabia into the region's leading government and also help Iran to increase its influence in the region. Development in the area is relatively calm and the relations in the Persian triangle, between Saudi-Arabia, Iran and Iraq, work well. Israel seeks to engage in closer cooperation with its neighbours. |
| <b>Latin America's development</b> | Latin America benefits from the oil reserves of its continent. A steady five per cent rate of growth has brought Latin America to the limelight of the world economy. The middle class is growing and the number of poor people is falling. In many countries reforms are taking place in education, healthcare, taxation and legislation on ownership. Brazil is developing into a leading regional superpower. Also the South American integration process is making rapid progress under its leadership. The dependants of one natural resource, Venezuela and Ecuador, benefit from the high price of oil.   |
| <b>Africa's development</b>        | Africa is a raw material warehouse. In the fight for raw materials, the world's poorest region, Sub-Saharan Africa, is a subject of China's and India's interest owing to oil, gas and metals. Africa does well as a result of Chinese investments. The continent becomes industrialized and urbanized. The population's educational level rises swiftly. Human rights infringements, however, are blatant. Africa closes the gap with Western countries by the year 2020 when measured in terms of economic growth.   |



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**PART 6**

**Battle of the blocs**

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# Battle of the blocs | Summary

## Development of economic crisis

World economic crisis deepens and is prolonged.

Government-led rescue operations, massive public investments and nationalization of key sectors do not bring the desired results in time.

Economic regions turn inwards and focus on solving their own problems. State capitalism and protectionism strengthen. Competing devaluations strengthen inflation, which causes problems for years ahead.

The US becomes isolated. EU-Russia co-operation strengthens as a practical necessity: Russia needs investments and technological know-how while the EU needs energy.

The economy begins to strengthen slowly in 2012-2013. However, the economic crisis has planted a seed of fear and there is no going back to the old world.

## World in 2020

Political systems, economic mindsets, assorted regulation cultures and regional trade blocs compete against each other.

The US suffers from post-recession sluggish growth and is introverted. The traditional trans-Atlantic relationship does not work.

The focal point of social and economic reforms has shifted to Europe. Compared to the US, the EU is doing relatively well.

Cooperation between Russia and Europe works, and for example CO<sub>2</sub> duties adopted in Europe do not apply to energy coming from Russia. The development of the EU's defence continues after NATO becomes crippled.

China suffers from devastating internal problems of mass unemployment, migration and large-scale protests. India's greatest internal political problems stem from the collapse of the infrastructure and idle, unemployed, skilled youths. The situation is exacerbated by the rivalry between China and India. The main reason for this is depletion of countries' oil and gas reserves.

# Battle of the blocs | Global development

## Prolonged economic crisis

2009-2011

- State capitalism and interventionism: state-led economic recovery operations and nationalization of sectors increase.
- The world economic crisis deepens and is prolonged. Hundreds of hedge and private equity funds fall, US bonds cannot be sold.
- Common global interests are left on the back burner and regional protectionism prevails. Economic areas turn inwards and concentrate on solving their own problems. Devaluation competition between countries increases.
- Obama resorts to duties and tax concessions to revive the economy.
- The US/USD-led international economic system is not reformed.
- The climate summit of Copenhagen in December of 2009 fails in its objectives.
- The defence policy dialogue between the US and Russia bogs down, arms control agreements are not renewed.
- Growth of the ICT sector of India is cut in half due to the economic crisis.
- The Chinese government's huge recovery package fails to boost the economy. China's economic growth rate falls below six per cent.

## Rise of blocs

2012-2015

- The internal integration of regions progresses and cooperation tightens but polarization between them increases. International co-operation is built on agreements between blocs and countries.
- Regional, economical and political areas competing against one another are formed: Russia + EU; U.S. + Latin America + India as a loose link; East-Asian countries and the Middle East.
- Economic areas develop unevenly. They seek for own answers and attempt to cope with the tightening competition on their own.
- The economy revives with the help of investments as consumption grows slowly. Inflation strengthens.
- Differences between different religions and cultures become critical and rise to a significant role in political decision-making and world trade.
- Regional environmental issues and local environmental actions are emphasized. Aggressive non-governmental organizations emerge and significant changes in life styles take place.
- China focuses on remaining a united country.
- Brain drain from India continues.
- Global GDP growth in 2009-2013: 0-2%.

## Locked islets

2016-2020

- Self-sufficiency thinking, a well working internal market and increased demand boost European economic growth.
- The EU tries to cope amidst social and economic reform.
- Waning exports, environmental catastrophes, migration, pandemics and internal political conflicts curb economic growth in Asia.
- China and India are on a collision course in the battle for dwindling oil and gas reserves. India also suffers from religious conflicts, spurring a decline in foreign investment.
- Religious authoritarian fanatics rise to power in weak states in the Middle East. Youth unemployment and discontent are also real problems. The US has retreated from the Middle East and aims to break loose from its oil dependency.
- The US suffers from the recession and the slow economic. The US strengthens its grip on Latin America.
- Global GDP growth in 2014-2020: 2-4%.
- Price of oil is 100 dollars per barrel.

# Battle of the blocs | State of the world in 2020 (1/4)

| Centre of social and economic reforms   |  |
|---|--|
|   | A severe international economic crisis in 2008-2011 has weakened economic growth of the US. The emphasis of social and economic reform shifts to the old continent, and the EU tries to carry on in its new role. Environmental catastrophes in Asia, migration and pandemics in addition to internal political conflicts curb economic growth in China and India. In a world divided into blocs there is rivalry between different systems, political structures, economic mindsets and regulation cultures.  |
| World economy                           | The rise of state capitalism and interventionism have led to growth of protectionism around the world. The world is full of self-sufficient mixed economies. The U.S./USD-led international economic system is not renewed. The G20 does not gain a significant status. Cooperation is carried out through blocs and agreements between states. Russian and European cooperation works. Chinese and Indian economic growth dies down due to external and internal problems. Small economies dependent on exports and funding experience difficulties. Several developing countries adopt China's state-run model in order to increase fast economic growth and political stability. Global GDP growth in 2009-2013: 1-3% and 2014-2020: 2-4%.  |
| International relations and geopolitics | The West of the post World War II has disappeared. In the world of <i>Realpolitik</i> the significance of geopolitics increases. With protectionism also tensions between countries have increased. Economic areas have turned inwards and the significance of self-sufficiency has increased. Regulation has increased on the local level. International organizations and co-operation structures (NATO, UN, G8) become paralyzed and try to carry on but they are incapable of reform. Russia and the EU have found each other: Russia needs European technology and the EU needs more energy options. The second round of the WTO can not be carried out despite several attempts, so the number of bilateral agreements grows. The influence of the EU increases; the US in turn becomes isolated.  |
| Climate change                          | Coal is the main source of energy: CO <sub>2</sub> -emissions grow rapidly especially in China and India. Despite attempts a shared international climate agreement is not reached. The objectives of Copenhagen are not met. Environmental catastrophes and alarming warning signals from scientific research lead to pressure on a national level: consumers and media become impatient. Regional environmental issues and local environmental measures are emphasized. Activities of aggressive non-governmental organizations and European citizens' radical changes in lifestyle reflect the ever-increasing public demand that climate change needs to be hindered, locally if nothing else. Objectives for self-sufficiency in energy and sustainable growth have led to new nuclear power investments also in those countries that have decided to discontinue use of nuclear power. Europe sets a price for CO <sub>2</sub> and CO <sub>2</sub> duties are adopted (this does not, however, apply to Russian energy). |

# Battle of the blocs | European development

| Prolonged economic crisis  | Rise of blocs   | Locked islets   |
|--|---|---|
| <p>2009-2011</p> <ul style="list-style-type: none"><li>The international economic crisis is prolonged and the bankruptcy wave in the US banking system spreads to Europe.</li><li>European banks are in weak shape, unemployment is rising and government debt increases.</li><li>EMU-criteria are loosened rather than having to give up on a common euro area.</li><li>National energy and food strategies are emphasized. Agricultural and energy subsidies are raised, which strengthens self-sufficiency.</li><li>Trade brawls with China and the US, however, unite the EU.</li><li>The EU's new constitution is ratified.</li><li>The objectives of self-sufficiency in energy and sustainable development lead to new nuclear power investments also in countries that had previously decided to give up nuclear power.</li><li>Increasing self-sufficiency thinking brings the EU and Russia closer. The EU needs energy and Russia needs technological know-how in order to improve e.g. infrastructure for its electricity production. Framework agreements are used to pave the way for direct investments.</li><li>Concessions are made to the energy package "202020" but the mission remains.</li></ul> | <p>2012-2015</p> <ul style="list-style-type: none"><li>The prolonged downturn leads to a consensus that the internal markets must be made to function. The role of the European Commission is strengthened.</li><li>The basic idea of the EU is emphasized: social cohesion, sustainable development and security.</li><li>The rigid labour market structures of European countries are renewed.</li><li>Large recovery packages and investments slowly start to take effect in Europe.</li><li>A price for CO<sub>2</sub> has been set but only in Europe. CO<sub>2</sub> duties are adopted in Europe. This does not, however, apply to Russian energy.</li><li>Environmental catastrophes and warnings from scientific research lead to pressure on a national level: consumers and the media demand action on a local level.</li><li>The enormous structural change in the heavy industry weakens its competitiveness outside the EU.</li><li>Technology co-operation to modernize Russia's energy plants continues and substantial investments are made in Russia.</li><li>Russia makes concessions on existing duties e.g. on timber.</li></ul> | <p>2016-2020</p> <ul style="list-style-type: none"><li>Relations between the US and Russia have deteriorated.</li><li>The relative status of the EU strengthens within the OECD.</li><li>The cooperation dictated by circumstances between the EU and Russia works. A new gas pipeline between Russia and the EU is agreed upon. Ground-rules on gas deliveries are being followed.</li><li>Developing EU defence is deemed necessary after the paralysis of NATO.</li><li>Domestic market-oriented manufacturers and the service sector are flourishing.</li><li>The labour unions have weakened substantially.</li><li>Regionalization has occurred inside the EU. Cooperation between Mediterranean countries strengthens. The EU and Northern Africa work closely.</li><li>Power struggles between big countries, the Baltic countries' critical attitude towards Russia and national blocs inside the EU undermine the unity of the EU.</li><li>Activities of aggressive non-governmental organizations and European citizens' radical changes in lifestyle reflect the ever-increasing public demand that climate change needs to be hindered, locally if nothing else.</li></ul> |
|  |   |   |

# Battle of the blocs | State of the world in 2020 (2/4)

| Battle of the blocs   State of the world in 2020 (2/4) |  |
|--|--|
| <b>Energy and raw materials</b>                        | Key words are self-sufficiency and the high significance of local energy production (e.g. coal, gas, nuclear power and bio-energy). China and India are on a collision course in a battle for decreasing oil and gas reserves. The use of other natural resources such as bio-energy increases. Differences in the energy efficiency between countries and regions are substantial. The price of crude oil in 2020 is 100 dollars a barrel.  |
| <b>Innovations</b>                                     | Knowledge centres remain local. The cooperation between Europe and Russia in education and use of knowledge supports the development of the region. Cooperation in nano-, energy and environmental technology strengthens. The objectives of sustainable development can be seen also in innovations.  |
| <b>Environmental technology</b>                        | The development of environmental technology does not keep up with the increase in emissions. Investments are made in clean coal, further development of bio-energy and nuclear power but CO <sub>2</sub> emissions continue to grow. The goal is to cut CO <sub>2</sub> emissions of coal power plants in half by 2070.  |
| <b>Internet technology</b>                             | The use and content of the internet is limited and controlled widely on political and religious grounds. Those in power limit exchange of information and trade. The more confined internet weakens global economic growth.  |
| <b>Competition for experts</b>                         | Self-sufficiency extends also into education and skilled labour. The significance of self-made know-how is emphasized. Competition is mainly for local experts; mobility of labour decreases globally. Large firms must be present locally: the significance of people hired locally increases. On a global level only a demand of special experts is increasing.  |
| <b>Values, religion and culture</b>                    | Sustainable development is emphasized especially in Europe. Differences between various religions and cultures become critical and take on a significant role in political decision-making and world trade. International institutions are not able to solve the problems. There are also conflicts within nation states. The development of religious fundamentalism continues (especially that of radical Islam) but attacks remain scant. |
| <b>Terrorism</b>                                       | Religious fundamentalists operate especially in the Middle East and Asia. Al Qaida succeeds in increasing its influence also among young Muslims in India. Out of the 100+ million Muslims in India a number become radical activists. The growing number of Muslim terrorists in Pakistan and India causes fear especially in Asia.   |

# Battle of the blocs | State of the world in 2020 (3/4)

| State of the world in 2020 (3/4) |  |
|----------------------------------|--|
| <b>US's development</b>          | Government-led economic recovery operations and nationalization of key sectors have not been successful. Due to the economic crisis the US's role as the locomotive of the world economy has weakened. The nationalization of banks in 2008 meant the fundamental rethinking of the roles of the private and public sector. There was no turning back from this road. The US is isolated and strongly seeks to decrease its dependency on foreign oil. The US/USD-led economic system has not been renewed.  |
| <b>Russia's development</b>      | Russia is a nationalist gas and oil state, where protectionism is growing. The high price of oil helps Russia to increase its power. Relations between the US and Russia have weakened. Industry is built on a natural resource economy. Russia has recognized that it must invest in infrastructure before the country runs out of electricity. Russia provides Europe with energy and Europe aids Russia in development of technology. The relationship is convenient and pragmatic, dictated by circumstances. Russia drops out of the WTO but has a bilateral agreement with the EU. A gas pipeline has been built and the cooperation works. The conditions for international European businesses operating in Russia improve.  |
| <b>EU's development</b>          | From difficulties to victory: the prolonged recession has led to an understanding about the new EU agenda and viability of the internal market. Self-sufficiency thinking and the increase of demand in new member states spawns regional growth. The relative position of the EU within the OECD countries has strengthened. The EU is a politically strong actor and takes on the role of bridge-builder. Relations between the EU and Russia become closer. Regionalization within the EU has occurred. Cooperation between the Mediterranean countries becomes stronger. Cooperation with North-African countries is also being developed. The scope of EU defence is developed. Schisms between countries cannot, however, be avoided. Competition between member states is visible especially in relation to Russia. |
| <b>China's development</b>       | The Chinese economy has been growing slowly for the last 10 years. The reasons for the unfavourable development have been the prolonged global recession, decrease in the exports, political instability inside the country, mass unemployment, income differentials, lack of energy and a shortage of expertise. The situation has also been exacerbated by severe environmental catastrophes, migration and pandemics. China and India are on a collision course as they squabble about dwindling oil and gas reserves.  |

# Battle of the blocs | State of the world in 2020 (4/4)

| State of the world in 2020 (4/4)   |  |
|------------------------------------|--|
| <b>Japan's development</b>         | Chinese economic development is slow, and its market is not pulling in Japanese products as it used to. Japan is positioning itself to the West economically and politically. Chinese policy becomes openly hostile towards Japan. Japan allies militarily with the democracies of East-Asia.  |
| <b>India's development</b>         | In India, internal political problems, religious conflicts and terrorist strikes become critical. This is reflected in foreign investments and economic development. Many foreign firms leave the country due to unstable circumstances. Economic growth is positive but no longer robust. The infrastructure has collapsed. India is unsuccessful in employing young experts; the production economy is no longer growing and a third of the world's poor still live in India. Relations with China are tense.  |
| <b>Middle East's development</b>   | Regional conflicts continue and new ones break out. The nuclear build-up especially in Iran and Saudi Arabia increases the instability of the region. Secularity is seen in the Middle East as a part of the western model – and they seek to distance themselves from it. Authoritarian religious populists and fanatics rise to power in weak nations in the region. The role of Islamic parties is emphasized and in many countries they rise into government. The mainstreaming of Islam alienates radical elements even more than before, giving rise to new rebellious groups in the countries. Middle Eastern leaders fail to integrate the area's growing population into a productive part of the global economy, which spurs youth unemployment. Youths are recruited to old and new terrorist organizations. The Middle East is a loosely knit bloc which suffers from internal problems. This slows down the development of the area. The US has pulled out of the Middle East and strives to cut its dependency on oil. The empty sky-scrappers of Dubai are reminders of the short period of flourishing growth. |
| <b>Latin America's development</b> | After retreating from the international stage, the US strengthens its grip on Latin America. Security problems of the smallest countries spin partly out of control. The prolonged economic crisis increases unemployment in the US, leading to dwindling money transfers and enormous problems especially in Mexico. Chile withstands the negative effects of the economic crisis the best. Argentina, Bolivia, Venezuela, Ecuador and Cuba are in the weakest position. NAFTA is agreed upon once again.   |
| <b>Africa's development</b>        | Still the forgotten continent. Weak productivity and development. Poverty and debt pose heavy burdens. The financial crisis has had a devastating effect on the continent. Sub-Saharan Africa remains the most vulnerable region of the world, where economic challenges, uncontrollable population growth, conflicts and political instability are emphasized. The amount of foreign investment and aid has decreased substantially.  |



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**PART 7**

**Stimulus and collapse**

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# Stimulus and collapse | Summary

## Development of economic crisis

Stimulus plans and packages fail to produce needed results. Keynes is dead. Government debt rises uncontrollably.

Eastern Europe collapses first. The greatest impact comes from the failure of the US stimulus packages.

A rapid and sudden sell-off of US bonds leads to a collapse of the dollar. The devaluation of the dollar boosts inflation. Industrial production capacity is downsized. The US consequently goes into a deep depression and the country's international status collapses. The domino effect cannot be stopped. The ultimate result is the collapse of the international economic system and real economy.

Factories are shut-down, huge lay-offs and mass unemployment lead to unrest, violent conflicts and internal political problems.

## World in 2020

In 2020 it seems like the third world war could break out at any moment. The international status of the US has collapsed as a result of the depression and economic difficulties. The world without a world police proves to be scarier than a one polar world. In the Middle East terrorist organizations have increased their power and taking over oil fields. Both China and Russia react to their own internal problems with superpower mentality, that is by using more force in neighbouring regions. National identity and the thought of a common enemy help citizens to stand with the dreariness of day-to-day life.

As international development aid and cooperation wane, pandemics increase and the conditions of refugees worsen. The amounts of emissions have nonetheless fallen in the aftermath of the prolonged depression and slackening of consumption.

The EU is dysfunctional. Proposals are even made to disband the EU.

# Stimulus and collapse | Global development

| Stimulus fails  | Depression and unrest   | Conflicts and command economy   |
|---|---|---|
| <p>2009-2011</p> <ul style="list-style-type: none"><li>• Old ideas do not work. Government stimulus packages fail. US and European governments' rising indebtedness leads to further problems.</li><li>• Weak performance of US real economy shakes debt financiers' belief in country's solvency.</li><li>• A rapid and sudden sell-off of US bonds leads to a collapse of the dollar.</li><li>• Devaluation of the dollar by 90% does not prevent exports but rather boosts inflation.</li><li>• The crisis slips out of all actors' control. The downturn is prolonged and deep. Economies collapse and there is mass unemployment.</li><li>• The renewal of the international economic system fails.</li><li>• The prolonged recession feeds political unrest and regional conflicts.</li><li>• The Indian IT sector lays off its workers, which triggers political unrest. Strong agricultural sector however helps India to do better than China.</li><li>• Wall Street and the City calm down.</li><li>• Oil prices are 50-70 USD per barrel. Russia and OPEC countries are in trouble.</li><li>• The Copenhagen Climate Conference produces an ineffective agreement.</li></ul> | <p>2012-2015</p> <ul style="list-style-type: none"><li>• The world economy is in a depression. Hyperinflation leads to world-wide problems. Asia, the Middle East and Russia blame the US for the crisis.</li><li>• The US debt problem grows worse. Massive migration movements arise inside the country.</li><li>• The Communist Party of China implements strict discipline over the country but the strongest areas resort to own resources and livelihoods (e.g. Southern China and electronics industry)</li><li>• Strong leaders rise, democracy suffers and extremist movements strengthen. Communities with similar values cooperate across borders.</li><li>• Income differentials widen and the middle-class becomes poorer.</li><li>• Pensions are lowered and retiring people compete for jobs.</li><li>• Conditions worsen in collapsed countries.</li><li>• North Korea has become the battlefield of local leaders. The instability of the country, which has lasted for years, arouse fear around the world.</li><li>• There are no new investments in environmental technology and research but decrease in industrial production due to the recession reduces emissions.</li><li>• Global GDP growth in 2009-2013: -1-+1%.</li><li>• The price of oil is 10-50 USD/barrel.</li></ul> | <p>2016-2020</p> <ul style="list-style-type: none"><li>• The international status of the US has collapsed and international institutions have become paralyzed.</li><li>• Business structures have become scattered into smaller and more regional units.</li><li>• Tightened competition for resources has led to more critical crises and conflicts with respect to water, commodities and raw materials. The utilization of stolen resources is common.</li><li>• Regional conflicts: China has taken over Taiwan, Russia has taken control of the Crimean Peninsula and part of Georgia.</li><li>• Militant terrorism increases.</li><li>• A few extensive environmental catastrophes shake especially Asia and Africa. The amount of serious pandemics increases. Development aid is not available. Migration movements of refugees exacerbates relations between neighbouring countries.</li><li>• Western values have changed. Belief in the democratic system and in the safety net of state has disappeared. Local leaders together with family are new safe havens.</li><li>• Global GDP growth in 2010-2020: 0-2%.</li><li>• The price of oil is about 50 USD/barrel (+/- 10 USD).</li></ul> |

# Stimulus and collapse | European development

## Stimulus fails

2009-2011

- The global economic crisis hits Europe hard.
- The European economy suffers. Conflicts on sharing money arise within the EU. Enlargement comes to a halt.
- The EU institutions are weak and power is shifting more and more to nations. The EU is unable to prevent the rise of nationalism, protectionism and racism.
- France witnesses strikes and riots.
- The German automobile industry lays off workers.
- Exports of export-dependent Central and Eastern European countries come to a standstill.
- Old EU countries resort increasingly to protectionism. Their own industry sectors are favoured and mobility of labour is restricted.
- The recovery package of the EU is not effective.
- The Lisbon Agreement is not ratified.
- Youth unemployment grows.
- The support for populists that favour restrictions on immigration increases.

## Depression and unrest

2012-2015

- Russia strives to strengthen its superpower status but this and the extremely low price of oil have devastating effects on the country. Russia divides into power cliques, some of which are nationalist, some western-oriented.
- EU countries make more and more bilateral agreements inside and outside the EU.
- Powerful EU countries stray from common rules concerning the four freedoms (free movement of goods, people, services and capital), EMU criteria and climate objectives.
- Aspirations for local self-sufficiency increase. Investments are divided amongst numerous sectors and this undermines the development of expertise.
- The grey economy expands locally.
- Russia takes over the Crimean Peninsula and a part of Georgia.
- The Baltic countries and Poland cry for NATO's help.
- Italy and Greece are deemed to have collapsed. Populist leaders arise amidst anarchy.
- Materialism and consumption decrease.

## Conflicts and command economy

2016-2020

- The US' main rival for the global dominance, Russia, is still flexing its muscles in nearby areas, which adds to problems between the EU and Russia.
- EU countries have difficulties responding to the defence cooperation demands of the US.
- European competitiveness has weakened. The economy is growing slowly and internal conflicts on the sharing of money are weakening the Union.
- EMU criteria have not been followed for years, and the EMU is only nominally active.
- It is difficult for the dysfunctional EU institutions to control the discontent, poverty, crime and racism brought about by the long recession.
- Unresolved conflicts between EU countries, the inconsistency of the Union and structural rigidities cause national counter-reactions.
- Proposals have been made to disband the EU.
- Cracks are beginning to form in the structures of welfare states and as pensions are lowered, especially family-centeredness and more modest levels of living increase.

# Stimulus and collapse | State of the world in 2020 (1/4)

| <b>Centre of social and economic reforms</b>   | There is no single locomotive in the world economy. Especially Western countries suffer in the world of prolonged, slow economic growth. Most of the GDP growth comes from China and India. The US economy has drifted into a deep recession. The downswing of the country's economy leads to a worldwide recession.   |
|--|--|
| <b>World economy</b>                           | The socialization of debt and recovery measures are not effective. The financial crisis leads to a long period of sluggish economic growth. Waning exports of cheap consumer goods is a problem for developing economies and leads to internal political problems (vast unemployment, mass migration, riots). The growth of the middle-class suffers a setback in developing economies. Countries with cheap labour are nevertheless doing slightly better than the West. The US economy has drifted into a deep recession and the international status of the country has collapsed. Global GDP growth in 2009-2013: -1-+1% and 2014-2020: 0-2%.  |
| <b>International relations and geopolitics</b> | International co-operation is struggling. The international status of the US has collapsed and no other country or bloc is able to take the role of world leader. Threats and geopolitical conflicts. The main intimidators in their areas are China, Russia and terrorist organizations in the Middle East. China's superpower mentality is visible both in Asia (an attack on Taiwan and annexation of both Hong Kong and Singapore) and Africa. Russia takes control of the Crimean peninsula and part of Georgia. In the Middle East terrorist organizations in power try to gain access to nuclear weapons. The EU, US and other OECD countries form their own bloc. Co-operation with the US requires military input from the others. The development of chemical and electromagnetic pulse-weapons continues. The militarization of space is discussed. Pakistan and China unite forces against the India-US block. Significant international agreements have not come about for years. The Copenhagen climate treaty has been watered down. After international development aid and cooperation has subsided, e.g. number of pandemics has increased and conditions of refugees have become worse. Migration movements strain relations between many neighbouring countries. |
| <b>Climate change</b>                          | No global climate treaty nor international cooperation. The economy and other issues have bypassed the need to hinder climate change in political decision-making. The EU has also lowered its own emission targets. Economic pressures lead to the point that it is financially infeasible to invest in the control of climate change. The transfer of technology is slow. Consumer behaviour is changing slowly. The amount of emissions has decreased due to the long recession and slackening of consumption.  |

# Stimulus and collapse | State of the world in 2020 (2/4)

| State of the world in 2020 (2/4)    |   |
|-------------------------------------|---|
| <b>Energy and raw materials</b>     | Due to the recession the demand for energy meets the supply. There is demand for Russia's gas and oil. Russia develops and utilizes its natural resource economy. Due to wide-scale protectionism, investments in technologies that increase energy self-sufficiency are promoted and the use of countries' own renewable sources of energy increases. Coal and bio-energy are main sources of energy. The struggle for clean water is gnawing at international relations. Prices of raw materials are low. The price of crude oil in 2020 is 50-70 dollars a barrel. |
| <b>Innovations</b>                  | Scarcity and local solutions are emphasized. Innovations correspond to end consumers' real needs. Nonsensical materialism and useless inventions are given up on. International environment does not promote movement of highly skilled labour.   |
| <b>Environmental technology</b>     | No significant technological breakthroughs. The efficiency of CCS technology remains poor. No new technologies with which the world could be saved from carbon dioxide emissions have emerged. Wealthy countries develop renewable forms of energy, developing countries do not.  |
| <b>Internet technology</b>          | Internet development slows down. This stems from numerous problems that have not been eliminated: spam, viruses, blockages in the routing systems, limitations on privacy protection and mobility. The internet is mostly used for entertainment. Snooping for information, misuse and data security problems are increasing. Firms develop their own closed systems. This development decreases economic growth and weakens the position of Western countries.   |
| <b>Competition for experts</b>      | Experts and highly skilled labour keep to their own geographical blocs. As economic growth slows down globally, the education systems of developing markets (China and India) produce most of the required experts. Mobility is nevertheless low.   |
| <b>Values, religion and culture</b> | Along with the decline of materialism, new thinking about well-being is emphasized in Western countries. Development into blocs and the recession of the world economy exacerbates prejudices and xenophobia between different cultures and religions. As a result of the prolonged recession of the world economy, the significance of networks of extremists increases. Conflicts between religions culminate on an international scale.  |

# Stimulus and collapse | State of the world in 2020 (3/4)

| Stimulus and collapse   State of the world in 2020 (3/4) |   |
|--|---|
| <b>Terrorism</b>   | Pakistan has become the promised land of terrorists. In the Middle East, terrorist organizations in power attempt to obtain oil reserves and to gain access to nuclear weapons. Terrorist attacks increase in Europe.   |
| <b>US's development</b>                                  | The US economy has drifted into a deep recession. Its protectionist politics lead to a worldwide recession. The international status of the country has collapsed. No other country or bloc is able to take leadership after the US. The EU, US and other OECD countries form a bloc which also tries to cooperate in defence and security issues. The pressure to develop energy self-sufficiency grows. The significance of renewable energy and nuclear power increases. Roads and buildings built with money from stimulus packages have not been maintained. Pension savings have collapsed and the healthcare system and social security have disappeared completely. |
| <b>Russia's development</b>                              | Russian economic growth decelerates. This trend stems from the world economy recession, low energy prices, neglecting of energy investments, problems with the infrastructure, inadequate education system and healthcare, undeveloped banking sector and from growing crime and corruption. Russia is the main opponent of the global dominance by the US. The use of force in neighbouring regions increases.   |
| <b>EU's development</b>                                  | The EU, US and other OECD countries form a loose-knit bloc. Relations between the EU and Russia are problematic. The EMU exists only nominally. The dysfunctional institutions of the EU have difficulty in controlling the discontent, poverty, crime and racism caused by the long recession. Unsettled conflicts between states in the EU perpetuate the idea of the disbanding of the EU. EU member states have difficulties in responding to the security and defence cooperation demands of the US. The welfare states of the EU are cracking. This paves the way for more family-orientated and modest ways of living.   |
| <b>China's development</b>                               | The downturn of the US and world economy has also made the Chinese economy cough. Hundreds of thousands of factories especially in Southern China have been forced to be shut down and civic demonstrations have increased when workers have not received their wages. Officials have not been able to restrain the prolonged unrest. China reacts to the internal problems with superpower mentality, by increasing regional power and by forcing Taiwan, Hong Kong and Singapore under its rule. China is the closest partner of North Korea, which has sunken into anarchy.  |

# Stimulus and collapse | State of the world in 2020 (4/4)

| <b>Japan's development</b>         | The prolonging and deepening of the economic crisis hits hard on the export-driven industry of Japan. Reforms are inadequate. The unfavourable population structure, aging industrial facilities and political uncertainty deepen the country's recession. From Japan's perspective the weakened US cannot provide the country with adequate security. Japan considers shifting closer to China militarily and economically.  |
|------------------------------------|---|
| <b>India's development</b>         | India is a significant centre in the international multi-hub system. Democratic India functions as an intermediary between China and the US. As an independent democracy, India creates partnerships with many different countries avoiding commitment to any sort of coalition. India's economic growth slows down substantially as the recession of the world economy is prolonged.   |
| <b>Middle East's development</b>   | Terrorist organizations increase their power in the Middle East. Population growth increases unemployment and discontent among young people, which increases radical views especially in Saudi Arabia. The Saudi Arabian oil reserves are indeed in danger of falling into the hands terrorist organizations. More youths are recruited into old and new terrorist organizations. Organizations aim to take control of oil fields and trade weapons (e.g. nuclear technology) for energy agreements. The US monitors the development of the Middle East helplessly. |
| <b>Latin America's development</b> | The economic growth of Latin America subsides along with the rest of the world. The economic competitiveness of the region is dragging behind the areas of most rapid growth. Criminal leagues control police forces and entire cities in South America. Organized drug crime is increasing and showdowns between groups are weakening general security especially in Central America and the Caribbean.  |
| <b>Africa's development</b>        | Under Chinese colonialism the infrastructure of the continent has improved but corruption and abuse of human rights have increased further. Africans hope to get rid of the new lords and riots against the Chinese are common. Weak states and problematic relations between states, tribes and communities slow down the development of the continent. The battle for clean water aggravates relations between neighbouring countries. Countries such as South Africa and Botswana benefit the most from the slow economic growth of the continent.               |

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**PART 8**

**Implications of scenarios on Finland**

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# Implications of scenarios on Finland | Introduction

Changes in the international environment will inevitably have an impact on Finland, Finnish companies and their employees. The following section on Finland offers preliminary ideas on how the fulfilment of the scenarios would affect Finland and how we could prepare for possible changes in the operative environment.

The range of scenarios provides a basis for broader discussion on the preconditions and factors of success for Finnish society and businesses.

The basic assumption is that Finland has a possibility to succeed or fail in each of the four scenarios. Success depends on how we utilize our strengths and develop our weaknesses.

Finland's strengths include mutual trust of people, the educational system, readiness to develop and use technology, good governance, nature including vast forest reserves and healthy attitudes toward work and leisure time.

Finland's weaknesses include the age structure, poor productivity development in the public sector, lack of international experts and undeveloped nature of incentives (intangible and financial).

In order to ensure success, it is important that we continue the debate on actions that are necessary regardless of a future scenario. The scenarios enable business leaders, employees and political decision makers to work together in order to find a common agenda and goals.

The aim of the Finnish section is to make us think about how Finland should prepare for possible changes in the international environment.

# Comeback of the West | Implications on Finland

Finland survives the economic crisis relatively unscratched.

After the crisis development continues the same as it was in the early 2000s. Problems do not go away but the challenges and opportunities are similar to those before the economic crisis.

As Asia struggles with its internal challenges, Finnish products and services must find more markets from developed countries such as the US and Europe.

The aging of the population places a burden on the welfare society in an unprecedented manner. The central government, municipalities and companies develop joint new ways to provide health, educational and well-being services.

Companies, trade union movements and the public sector must think of ways to extend working careers. At the same time new experts are needed. Companies must compete for skilled international labour and the assistance of the central government and the municipalities is needed to facilitate work-oriented immigration.

Combining of work and leisure time will be Finland's trump card. This can help to attract experts to Finland and foster "enriching communities", where people encourage each other to succeed. The importance of culture is emphasized.

Cooperation with leading Western universities and research centres is important both for universities and companies. University reform is a key element of the success strategy.

The role of the internet and social media will grow. The commercialization of innovation is Finland's Achilles heel. If Finns succeed in this, favourable development will strengthen.

The integration of workers laid off during the economic crisis back into working life is a social priority. We cannot fail in this endeavour as was the case in the 1990s.

# Comeback of the West | Implications on Finland

| Impact on business structure   | Impacts on public sector   |
|--|--|
| <ul style="list-style-type: none"><li>Share of basic industry and primary production declines further. Share of private services grows.</li><li>Firms in the manufacturing industry specialize in high value added products and services.</li><li>New sectors emerge and grow e.g. energy and environmental technology.</li><li>Significance of small and medium enterprises grow.</li><li>Russia is one of the most important trading partners for Finland.</li><li>Owing to innovative inventions, academic entrepreneurship becomes more pervasive.</li><li>Energy efficiency and ecological solutions, responsible business practices and quality become global trump cards.</li></ul> | <ul style="list-style-type: none"><li>The role of the state becomes similar to that before the economic crisis. Taking care of the debt takes years.</li><li>The state's significance as a developer of public-private partnership projects grows.</li><li>The state's share of R&amp;D and innovation support is sizable.</li><li>The central government, municipalities and companies develop new service concepts and service innovations.</li><li>The role of the municipalities in service production has to be redefined.</li><li>The functionality of regional policy is assessed: the focal point shifts to cities and one metropolis.</li></ul> |
| Finland's opportunities  | Finland's risks  |
| <ul style="list-style-type: none"><li>Knowledge, education and welfare services are turned into commercial export products.</li><li>New growth is created by specializing, catering for global markets and by developing global strategies.</li><li>Traditional industry is revamped by investing in new innovations and new businesses.</li><li>Know-how in narrow segments becomes productive. New successful companies emerge and this spawns employment and welfare.</li><li>Productivity is boosted in a sustainable manner through quality, innovation, jobs of high-value and by learning to balance work and leisure time.</li></ul>   | <ul style="list-style-type: none"><li>Finland fails to attract enough experts.</li><li>Finland fails to produce R&amp;D results and to turn innovations into commercial products.</li><li>The lessons of the economic crisis do not lead to structural reforms of society instead the old models are retained.</li><li>Market losses in Asia are not offset by increasing market shares in the US and Europe.</li><li>Traditional industry is not renewed quickly enough.</li><li>As in the previous depression, the integration of laid-off workers back into society fails.</li></ul>  |

# Chinese capitalism | Implications on Finland

In this scenario things can go very well or very badly for Finland.

The world economy is growing swiftly but the focal point of the economy and politics has shifted to Asia. For Finland this means that a great structural change has to be carried out.

Finnish companies that are able to gear their activities towards Asian growth will succeed. On the other hand, the growth outlook for traditional industry in Finland is weakening. Promising markets open up for high value added fields such as education and expert services.

As capitalism wanes, the importance of government will decrease. Municipalities will outsource most of their service production and assume the new role of service financer and organizer.

The active cultivation of Asian trade relations may spawn new investments to Finland. To fulfil this vision, Finland should prepare by fostering Chinese capital investments. Possible investment targets include IT centres.

On the other side of the equation lies a hazard for daughter companies. If Finnish companies are not in good shape, their ownership may shift to Asian owners.

Finnish work may be competitive in this scenario if the labour markets are flexible and level of know-how high.

There is nevertheless a risk that unemployment increases when production and R&D slip abroad. Likewise, keeping top experts may prove to be difficult. It is likely that long, steady employment relationship are rare.

The reform of the education system is a necessity. Asian know-how must be increased.

# Chinese capitalism | Implications on Finland

## Impact on business structure

- The growth of China and the rest of Asia undermine the growth of traditional sectors in Finland.
- High value-added sectors win, low value-added sectors lose. Rising sectors are e.g. environmental and software technology.
- Raw material based industrial production is limited to domestic raw materials.
- The profound change in ground-rules of international trade and competition hastens structural change. Many companies adopt new operative models.

## Finland's opportunities

- The business structure can be renewed quickly: the service sector and service exports are developed as industry shrinks. Innovative service clusters are formed.
- Finnish companies succeed to enter new markets and export areas such as Vietnam and Inner-China.
- Industry's specialization e.g. in environmental technology generates results.
- Finland is able to benefit from growing labour mobility and flexibility in the labour market.
- Collaboration with the Chinese in R&D promotes know-how also in Finland.
- Establishment of close relations with Asia helps to attract foreign investments to Finland.

## Impacts on public sector

- The significance of the state decreases. The state concentrates increasingly on fostering companies' global operative conditions.
- As market forces expand, the municipalities outsource service production almost completely and withdraw to the role of service financer and organizer.
- Social security is reformed. The reform is sold to Finns under the name of "citizens security".
- The possibilities of small municipalities to survive decrease. Town centres grow and large cities merge.

## Finland's risks

- The business structure, educational system and operative models of knowledge networks are not renewed quickly enough to correspond to the new operative environment.
- Finland's competitiveness weakens. Assembly work and basic engineering jobs shift to Asia at a faster rate, and they are not replaced by new investments. Finland becomes a withering daughter company economy.
- Owner relations and international trade regulations change: Finnish companies' operative conditions weaken.
- Top experts flee from Finland to the more attractive labour markets of Asia.
- Basic public services weaken as the public sector shrinks.
- Commercialization of environmental technology fails.

# Battle of the blocs | Implications on Finland

As the recession is prolonged, countries and regions seek refuge by isolating themselves. Export-driven Finland is in a trouble. Luckily the Russian and EU's internal markets function.

As EU-Russia cooperation strengthens, Finland gains a pivotal role in the Baltic Sea region. This requires however, that Finnish attitudes towards Russia become more positive.

The development of high value-added products and motor fuels spurs new growth in the slumping paper and pulp industry. One strong sector emerging is nuclear power know-how, which will be turned into an export product in collaboration with Russia.

As the recession continues, the public sector as a whole has to adapt its activities. The availability of public services weakens.

Finnish households have taken big loans. This makes them more vulnerable to economic fluctuations and reduces people's ability to invest.

In the worst case Finland will face a precipitous drop in exports and weakening of domestic demand. This will increase unemployment that will spread possibly also to the service sector.

In order to prevent the dismantling of the welfare system, Finland has to boost economic growth by increasing productivity, creating new jobs and raising the employment rate by extending working careers.

In a difficult economic situation the Eastern neighbour is not only a saviour but also a threat: as Russia's role strengthens, there is a danger of neo-Finlandization.

# Battle of the blocs | Implications on Finland

## Impact on business structure

- Paper and pulp industry is downsized locally integrated with growing production of Russia and EU. The development of high value-added products and motor fuels spawns new growth in the paper and pulp industry.
- Arctic construction increases with the exploitation of the Arctic Ocean and Siberian natural resources.
- Nuclear power know-how becomes an export product in collaboration with Russia.
- As protectionism becomes more prevalent global supply chains and processes have to adjust to the new situation.

## Finland's opportunities

- Finland is able to capitalize on opportunities offered by the Baltic bloc as cooperation with the EU and Russia strengthens.
- Companies are able to improve their competitiveness in the EU's internal market and in Russia's growing markets e.g. by building infrastructure.
- Global companies are able to customize their operations within trade blocs.
- Attitudes towards Russia become more favourable, which enables full utilization of Finland's special position.
- Energy, environment and arctic know-how are successfully combined and commercialized.

## Impacts on public sector

- The state has a steering role. The state loses some of its role to the strengthening EU and to municipalities.
- The differences between municipalities grow slowly. The levelling off these differences is regarded justified as it helps to safeguard availability of services.
- As the recession continues, the public sector has to adjust and the level of public services weakens.
- Russia's possibilities to utilize southeast Finland turn it into an important growth region.

## Finland's risks

- Global markets close, so that medium-sized export firms run into difficulties and production slips abroad.
- Exports contract substantially, unemployment grows vigorously, domestic demand slackens and unemployment spreads also to the service sector.
- Strong stimulus give rise to a new bubble in the economy, the bursting of which leads to an even worse crisis.
- The funding of the welfare society stalls.
- As international capital flows dry up, competition for investment capital within the blocs grows keener and Finland gets run over by older rivals in this footrace.
- Neo-Finlandization: As Russia's role strengthens, Finns adopt the mindset and operative models of the Soviet era.

# Stimulus and collapse | Implications on Finland

The financial crisis has left the world on the brink of chaos. After the U.S. has lost its status as a world police and leading economic power, there is a power vacuum which no one is able to fill.

Countries attempt to survive in their own way. In Finland, business life is divided to serve both the domestic market and the demand for international know-how. Exports are struggling but in the best scenario the strongest businesses are still able to operate.

For the first time since the world wars, the state has to take on the role of a strong leader on a national level. Public services and investments have to be reduced substantially. New forms of co-operation between the state, municipalities and businesses must be found. The partial dismantling of the welfare state leads to an even stronger sense of a community. Families take care of their children and the elderly. The civil society becomes more active. Self-sufficiency is increased also in energy output. Smaller scale agriculture promotes ecological sustainability of farming.

The most significant risks of the scenario are related to the effects of the structural change. If the change is not controlled it will lead to an explosive growth of unemployment. This would increase also social problems. The decrease in public finances can cause the erosion of society. There will be no resources for pre-emptive care of diseases and developing of know-how will come to a halt due to lack of education funds.

In an extreme case, there is also a change in Finnish attitudes. Circumstances will dictate that free trade, multiculturalism and tolerance will give way to protectionism and the community spirit. As income differentials widen, social discontent and extremist movements will gain a better ground. As the same unrest is also stirring throughout the world, the significance of geopolitical risk analyses increases.

# Stimulus and collapse | Implications on Finland

## Impact on business structure

- The business structure is polarized. On the one hand, an even narrower and know-how intensive international industry and service sector is born. On the other hand, more businesses emerge to cater only for domestic needs.
- As demand slackens, exports collapse below a level that prevailed during the recession in the early 1990s. The relative share of primary production increases.
- The self-sufficient economy grows. Energy production resorts increasingly to use of domestic natural resources, wood and peat.

## Finland's opportunities

- Strengthening the role of the state. A national recovery strategy is drafted, the funding of the state safeguarded and peace maintained in society.
- Public services are adjusted to the scant resources. New forms of cooperation are developed between the state, municipalities and businesses.
- The operational requirements of businesses are safeguarded. New entrepreneurship is encouraged.
- The stability of Finnish society and atmosphere of trust foster business activities. Increase in outside investments.
- Decentralized local energy production is increased.
- The civic society strengthens. The role of non-governmental organisations, community and family is emphasized.
- Finns learn once again to get along on their own.

## Impacts on public sector

- The state is forced to take on the role of a strong leader in the time of crisis, while municipalities struggle with streamlining of service production.
- Public services and investments are heavily prioritized. New means to produce services are sought. These are to be based on joint responsibility.
- The state supports local activity and relocation of people to the countryside.
- The state prepares for problems that are caused by growing unemployment levels and global refugees.

## Finland's risks

- Military conflicts in nearby areas affect Finland. Fear of Russia increases and risk-taking decreases.
- The sales of export companies collapse. The forest industry withers, the metal and engineering industries shrink. Nokia becomes a standard corporation among others.
- The profound economic and social structural change is not under control. Unemployment sky-rockets, social problems explode, social unrest increases, extremist movements grow stronger, racism and crime increase.
- The funding of the public sector weakens. Less money is available for healthcare and education. The resources are not enough for covering pension system and social security.
- As the economy collapses international banks retreat back to their domestic markets due to pressure by their domestic owners to reduce risks.

# Finland's scenario-specific contingency plans

## Comeback of the West

- Companies must be prepared to take advantage of upswing that starts faster than expected.
- Banks must be ready to finance investments.
- Traditional industry must reform.
- We need a clear EU strategy and readiness to join NATO.
- A balance between work and leisure time is important. As a result people want to working for longer and productivity rises.
- Companies and universities: collaboration with top Anglo-Saxon universities is important.
- Reassessment of educational system: we need both people with masters degrees and master craftsmen.
- Cooperation of political and economic actors is important. Public-private projects are a significant way to operate.

## Battle of the blocs

- Russia is the greatest opportunity for Finnish businesses. Focus should also be on EU's internal market.
- Finland should ally itself in the EU with countries that defend free trade.
- Management of state debt and safeguarding of financing for welfare state are government priorities. Program includes reducing unemployment and extending working careers.
- Global Finnish companies must foster independent activities within each economic bloc (R&D, production, marketing).
- Participation in oil and gas industry projects in the Barents area.
- Close-knit cooperation with Russian universities.

## Chinese capitalism

- Companies must be prepared to invest more than previously in Asia.
- Cooperation with top Asian universities. Exchange students to Asia and from Asia to Finland.
- Focusing in knowledge networks.
- Government must draft a strategy for Asia. EU strategy is not as important.
- Strained Russian relations require diplomatic skills and maintenance of credible defence capability.
- As people change jobs at a brisk rate, the challenge is to guarantee workers sufficient social security and retraining possibilities.
- What should we do with deserted regions when people shift to knowledge centres?

## Stimulus and collapse

- The government's most important task is the creation of a national survival strategy. This includes prevention of social unrest, safeguarding of state financing, re-estimation of the welfare state and demonstration of political leadership.
- The state must prepare to borrow from citizens.
- Development of domestic food production and emergency supplies.
- Prepare for military conflicts in neighbouring regions and global refugee problems.

# Summary: main developments and Finland's challenges in different scenarios

| Scenarios             | Scenario's main developments   | Finland's challenges   |
|-----------------------|--|--|
| Comeback of the West  | <ul style="list-style-type: none"> <li>The market economy and democracy show their strength once again.</li> <li>After a brief slump, the world economy recovers quickly with the West as its leader.</li> <li>The main international institutions are reformed.</li> <li>Western values strengthen around the world.</li> </ul> | <ul style="list-style-type: none"> <li>There is a danger of getting stuck in a rut with old beliefs and policies.</li> <li>Achievement of high productivity and improving the rates of employment are real challenges.</li> </ul>  |
| Chinese capitalism    | <ul style="list-style-type: none"> <li>Capitalism without democracy.</li> <li>The economic and political focal point shifts to Asia.</li> <li>Metropolises and networks of experts function as the motors of growth.</li> <li>Progress is made in curbing climate change.</li> </ul>   | <ul style="list-style-type: none"> <li>The challenge is to adapt to the new rules of the game created by turbo-capitalism.</li> <li>Large changes are needed in the business structure and the educational system in order for Finland to retain its competitiveness.</li> </ul> |
| Battle of the blocs   | <ul style="list-style-type: none"> <li>Long difficult recession.</li> <li>The economic and political power of the US weakens.</li> <li>Regional trade blocs, protectionism and state capitalism emerge.</li> <li>Cooperation between the EU and Russia strengthens.</li> </ul>   | <ul style="list-style-type: none"> <li>Barriers to free trade pose a dilemma for export-driven Finland.</li> <li>Russia is an opportunity but also a threat: there is a danger of neo-Finlandization.</li> </ul>   |
| Stimulus and collapse | <ul style="list-style-type: none"> <li>Traditional stimulus plans and packages do not work.</li> <li>Prolonged global crisis. International cooperation breaks down, economic systems collapse, governments go bankrupt, conflicts increase.</li> <li>The European Union weakens.</li> </ul>                                     | <ul style="list-style-type: none"> <li>Great test for the Finnish society.</li> <li>Financial problems of the state, dismantling of the welfare society, slackening exports, and difficulties of municipalities are real challenges.</li> </ul>                                  |

# Actions necessary for Finland

Ten actions that must be taken regardless of the scenario:

- **Turn Finland into a model country for high productivity.** Better productivity in public sector is of pivotal importance. The division of labour between the public and private sectors, the way the public sector carries out its activities and the level of social benefits should be defined.
- **Revamping Finnish educational system and internationalization of Finnish know-how.** Finland needs both people with masters degrees and master craftsmen. Radical reform of universities.
- **Prepare for change of business structure.** Shift from industrial production to service society. Reform of forest industry. Commercialization of know-how, education and well-being services into export products.
- **Safeguard availability of competitive energy. Strengthening of energy and environmental technology knowledge.**
- **Bring Finland back into a leadership position in the development of information society.**
- **Prepare for post-recession shortage of labour.** Work-related immigration should be increased. Employment schemes for senior citizens must be developed. Those laid off during the economic crisis must be integrated back into working life. Duration of studies must be shortened.
- **Encourage people to work via tangible and intangible means.** Tools include taxes and management. The objective is to make Finland a better place to work, to invest and for entrepreneurship.
- **Better balance between work and leisure time.** More enthusiasm, productivity and creativity.
- **Update companies' and government's strategies on Russia and Asia.**
- **Make Finland once again the least corrupt country in the world.** Oversight of the use of power fosters openness, stability and an atmosphere of trust in society.

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**PART 9**

**Continuities and certainties**

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# These trends are common to all scenarios:

## Globalization

- Despite the economic crisis the operative environment remains global. World-wide networking and the scope of cooperation may vary but global solutions must be sought for global problems and issues.

## China's and India's importance grows

- China's and India's economies have grown the fastest in recent years and it is forecast that they are among the top five economies by the year 2030. The significance of the countries grows also politically and geopolitically.

## Energy requirements increase

- The availability and price of energy are of great importance for industry, shipping, services, agriculture, transport and households. Self-sufficiency is valued.
- The demand for energy grows vigorously in China and other rapidly developing countries. This undermines the sufficiency of energy resources on a global level.

## Population explosion continues

- Strong population growth has profound effects e.g. on demand for food and control of climate change. The insufficiency of clean water becomes a problem in many regions.
- Divergent rates of population growth, i.e. a sudden halt in growth in certain regions and continued rapid growth in others creates social pressures and presumably leads to massive migration movements.

## Aging of population

- The aging of large age groups poses a challenge especially for the OECD countries in the coming years.
- The number of elderly dependents grows, the number of employed persons decreases and the ability to take care of the elderly weakens. The sustainability of the public sector and safeguarding of welfare are put to the test as tax revenues decline and the demand for social and health services increases.
- The aging of population has an impact on consumer demand, business activities, entrepreneurship, financing of municipalities, demand for labour and availability of skilled labour. The change in the age structure will make us reconsider our actions.

## Significance of food production increases

- The growth in the world population increases the demand for food.
- Climate change affects food production. Self-sufficiency increases.
- Agricultural land is used increasingly for production of energy and industrial raw materials. Food becomes more expensive. The amount of clean water decreases and its price increases. The amount of land area suitable for food production dwindles.

## Public sector overloaded, efficiency pressures grow

- As the population ages the need for well-being services grow. The public sector faces simultaneously a greater demand for services and a shortage of resources. Coping with the situation requires new approaches to providing services (e.g. electronically) and structural reforms.

## **Technology develops**

- Technological development continues to be swift. New innovations emerge, for example, within the following technologies: environmental, energy, information and communications, bio- and nanotechnology. These create a huge potential for new applications and renewal of old activities. Technological solutions help to some extent solve ecological challenges and reduce the load on the environment.
- Technological development creates new possibilities to boost productivity both in companies and in public administration.

## **Importance of IT networks and social communities grows**

- The development of information technology continues and more information can be disseminated faster than before within a wider area, also wirelessly. The importance of managing access to networks and information grows. The use of the internet diversifies and advances are made in digitalization of society.
- The significance of social communities in the web grows. Networks such as Facebook are used increasingly as tools for advertising, business, distribution of information and as a means of political communication.

## **Greater emphasis on ecological issues and environment**

- The goal of sustainable economic, environmental, social and cultural development strengthens as a basis for all activities. The connection between sustainability of economic activities and ecological systems is commonly realized.
- Environmentally friendly solutions become more prevalent in use and production of energy as well as in manufacturing of consumer goods. Efficiency in the use of materials increases due to the scarcity of raw materials. The concept of life-cycle thinking becomes a daily routine.

## **Security awareness becomes increasingly important**

- Pandemics as well as risks related to natural environment (earthquakes, ground fires, unusual weather conditions, rise of sea level) and functioning of a society (unrest, technology, chemicals, environmental problems) have an effect regions' attractiveness and competitiveness. Security-aware behaviour increases.
- The need for security affect decisions concerning where people want to live and where companies locate their operations. Also travelling is affected by security factors.

## **Need for know-how and innovation strengthens**

- Competitiveness in innovations becomes an increasingly important factor in attracting new companies and top researchers. The ability to create, adapt and exploit new inventions and ideas have an effect regions' attractiveness and international status.
- Social skills and the ability to network become more important.
- The significance of lifetime learning increases.

## **Competition for experts keener and foreign labour increasing**

- International competition for experts strengthens. The share of foreign labour rises in both low-wage sectors and in jobs requiring higher-level education and top expertise. Ability to offer experts attractive work and living environments increases competitiveness of countries and regions.
- New management models and a creative atmosphere attract experts.

## **Business models revamped**

- The business environment of companies changes rapidly. Networking becomes an increasingly important in both production and consumption. Simultaneously the significance of the internet as a facilitator of business increases and services become available in electronic form.

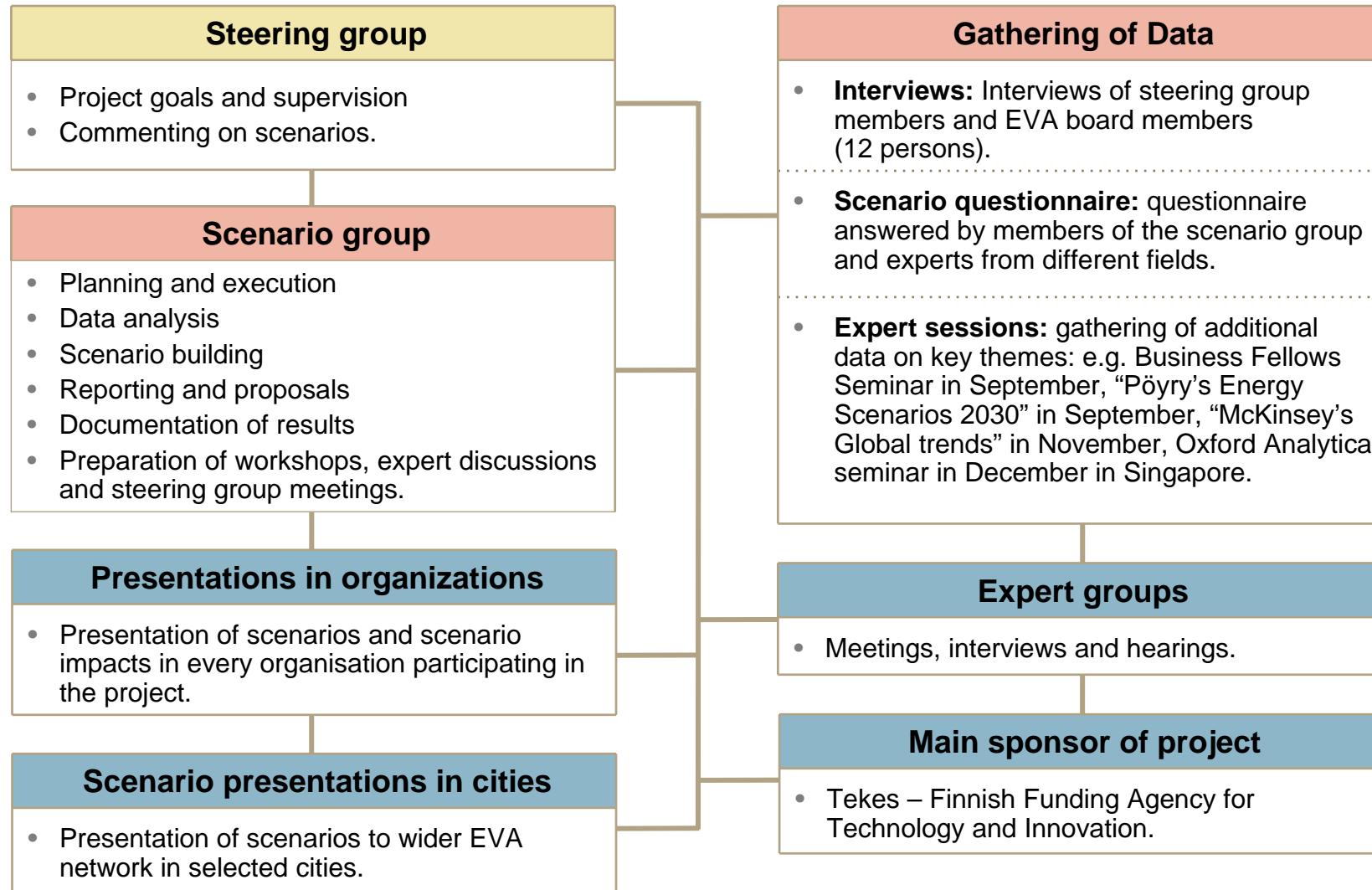
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**PART 10**

**Project organization**

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# Project organization



# Experts | (1/4)

| Forename  | Surname              | Title   | Organization  |
|-----------|----------------------|---|---|
| Marita    | Aho                  | Senior Adviser                                      | Confederation of Finnish Industries EK                          |
| Tuomo     | Alasoini             | Director  | Tekes, The Finnish Funding Agency for Technology and Innovation |
| Mikko     | Alkio                | State Secretary                                     | Ministry of Employment and the Economy                          |
| Jari      | Annala               | Senior Vice President, CFO                          | SOK Corporation   |
| Alexander | Bargum               | Partner; Board Member                               | Hannes Snellman; Algol Ltd                                      |
| Kurt      | Björklund            | Co-Managing Partner                                 | Permira Advisers LLP  |
| Tom       | Dahlström            | Senior Vice President                               | OP-Pohjola Group  |
| Henrik    | Ehrnrooth            | Managing Director                                   | Goldman Sachs International                                     |
| Bo-Erik   | Ekström              | Senior Business Advisor                             | B&MANs  |
| Janne     | Gallen-Kallela-Sirén | Director  | Helsinki City Art Museum  |
| Anna      | Granskog             | Principal   | McKinsey & Company  |
| Ilkka     | Halava               | Futurist, Coach                                     | Prime Coaching & Consulting Oy                                  |
| Kristian  | Hedberg              | Deputy Head of Cabinet                              | Cabinet of Commissioner Meglena Kuneva, European Commission     |
| Sirkka    | Heinonen             | Professor, Futures Research                         | Finland Futures Research Centre (FFRC)                          |
| Pekka Y.  | Hiltunen             | Study Secretary of Church and Other Faiths          | Church Council  |
| Reija     | Hyvärinen            | Head of Programming, YLE24                          | YLE   |
| Kari      | Häyrinen             | Executive Vice President, Global Insight & Strategy | Finpro  |
| Jack      | Ilmonen              | Managing Director                                   | Fidens Private Equity, Co.                                      |
| Antti     | Joensuu              | Deputy Director General                             | Ministry of Employment and the Economy                          |
| Esa       | Kaikkonen            | General Counsel                                     | Metsäliitto Group   |

# Experts | (2/4)

| Forename   | Surname     | Title  | Organization                                    |
|------------|-------------|--|---|
| Mirjam     | Kalland     | Secretary General                                      | The Mannerheim League for Child Welfare         |
| Jorma      | Karppinen   | Director   | Eurofound                                       |
| Piia-Noora | Kauppi      | Managing Director                                      | Federation of Finnish Financial Services        |
| Maritta    | Kemiläinen  | VP, Strategic Analysis                                 | Rautaruukki Corporation                         |
| Mika       | Kerttunen   | Lieutenant Colonel                                     | National Defence University                     |
| Kimmo      | Ketola      | Researcher   | The Church Reasearch Institute                  |
| Riitta     | Kirjavainen | Counsellor   | Prime Minister's Office                         |
| Jorma      | Korhonen    | Director General for External Economic Relations       | Ministry for Foreign Affairs of Finland         |
| Sixten     | Korkman     | Managing Director                                      | Finnish Business and Policy Forum EVA           |
| Tapio      | Korpeinen   | President, Energy and Pulp Business Group              | UPM-Kymmene Corporation                         |
| Risto      | Kousa       | Head of International Affairs                          | The Finnish Confederation of Professionals STTK |
| Kristiina  | Kumpula     | Secretary General                                      | The Finnish Red Cross                           |
| Leila      | Kurki       | Senior Adviser   | The Finnish Confederation of Professionals STTK |
| Petteri    | Laine       | Corporate Wellness Consultant                          | Excenta   |
| Kai        | Laitinen    | Senior Vice President – Change Management and Projects | Outokumpu Corporation                           |
| Ilkka      | Lakaniemi   | Head of Global Political Dialogue and Initiatives      | Nokia Siemens Networks                          |
| Veera      | Lammi       | Unit Director  | Tapiola Life                                    |
| Johanna    | Liukkonen   | Communications and Liaison Officer                     | United Nations Development Programme (UNDP)     |
| Mari       | Luomi       | Research Assistant, PhD Cand.                          | The Finnish Institute of International Affairs  |

# Experts | (3/4)

| Forename   | Surname           | Title  | Organization  |
|------------|-------------------|--|---|
| Topi       | Manner            | Executive Vice President                                 | Nordea Bank Finland Plc                                   |
| Sara       | Mella             | Managing Director  | Otava Publishing Company                                  |
| Martti     | Myllylä           | Senior Adviser   | Ministry of Employment and the Economy                    |
| Kari-Pekka | Mäki-Lohiluoma    | Deputy Managing Director                                 | The Association of Finnish Local and Regional Authorities |
| Leena      | Mörtsäter         | Vice President   | Nordea  |
| Petri      | Niemisvirta       | Managing Director  | Mandatum Life Insurance Company Ltd                       |
| Anders     | Norrena           | Senior Vice President                                    | Handelsbanken   |
| Hannu      | Ohvo              | Executive Director                                       | Trade Union Solidarity Centre of Finland                  |
| Simon-Erik | Ollus             | Advisor, Economist                                       | EastOffice  |
| Erkki      | Ormala            | Vice President, Technology and Trade Policy              | Nokia   |
| Topi       | Paananen          | Chairman   | Peikko Group Corporation                                  |
| Juha       | Pankakoski        | Director, Business Process Development                   | Konecranes Corporation                                    |
| Jukka      | Pekkala           | Secretary General  | Finnish Sports Federation                                 |
| Kristina   | Pentti-von Walzel | Member of the Board                                      | Lemminkäinen Group  |
| Sakari     | Puisto            | Dr, Chief Scientist                                      | MatOx Ltd   |
| Pasi       | Rajala            | Head of Communications                                   | UN Development Programme UNDP                             |
| Kari-Pekka | Rannikko          | Colonel  | Ministry of Defence                                       |
| Jaana      | Remes             | Senior Fellow  | McKinsey & Co, San Francisco                              |
| Tuula      | Ryttilä-Uotila    | Vice President   | Nokia   |
| Niina      | Ryynänen          | Vice President, Customer Relationship; Managing Director | Kesko Food Ltd; K-Plus Oy                                 |

# Experts | (4/4)

| Forename  | Surname       | Title  | Organization   |
|-----------|---------------|--|--|
| Juha      | Sihvola       | Director of the Helsinki Collegium of Advanced Studies,<br>Professor | University of Helsinki   |
| Eeva      | Sipilä        | CFO  | Cargotec Corporation   |
| Markus    | Sjöholm       | Senior Partner   | CapMan Group   |
| Pasi      | Sorjonen      | Head of Forecasting Unit   | ETLA, The Research Institute of the<br>Finnish Economy             |
| Paavo     | Suni          | Senior International Economist                                       | ETLA, The Research Institute of the<br>Finnish Economy             |
| Taina     | Susiluoto     | Senior Defence Policy Adviser  | Ministry of Defence  |
| Antti     | Suvanto       | Head of Monetary Policy and Research                                 | Bank of Finland  |
| Tuulia    | Syvänen       | Executive Director   | Fairtrade Finland  |
| Tapani    | Tarvainen     | Chairman   | Electronic Frontier Finland  |
| Henrikki  | Tikkanen      | Professor, Head of Department Marketing and Management               | Helsinki School of Economics HSE                                   |
| Teppo     | Turkki        | Executive Director, Researcher                                       | Kan Sei Consulting Ltd   |
| Riitta    | Työläjärvi    | Counsel  | The Finnish Confederation of<br>Professionals STTK                 |
| Christoph | Vitzthum      | Group Vice President, Head of Wärtsilä Power Plants                  | Wärtsilä Corporation   |
| Gustav    | von Hertzen   | Mr   |  |
| Pekka     | Ylä-Anttila   | Managing Director  | Etlatieto Oy   |
| Eero      | Yrjö-Koskinen | Director   | The Finnish Association for Nature<br>Conservation                 |
| Martti    | Äijälä        | Executive Director   | Tekes, The Finnish Funding Agency<br>for Technology and Innovation |

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**PART 11**

**Making use of EVA's global scenarios**

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# Making use of EVA's global scenarios

EVA's global scenarios can be utilized as a reference when developing sector-specific, focused scenarios. The point of departure can be the scenario description until the year 2020 and/or the outcome of the economic crisis over a shorter time period until the year 2013 depending on the needs and situation of each actor.

Focused scenarios can in turn benefit a company's, organization's and region's

- development of current strategy
- drafting of back-up plans
- development of alternative strategies, recognition of risks and opportunities
- renewal of management's strategic view
- development of monitoring of operative environment

The diagram on the next page depicts the creation of focused scenarios based on reference scenarios.

# Making use of EVA's global scenarios

