

Horizon scanning for radical innovation breakthroughs for R&I policy
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Key Future Global Value Networks: Setting the Scene

Prof. Dr. Dr. h.c Barbara Haering

Outline

- Starting point: Global trends and challenges
- The concept of Global Value Networks GVN
- Case study Zurich Region
- Key elements for GVN
- Business Model Innovation for a changing world

Megatrends are complex and non-linear

Megatrend-Map

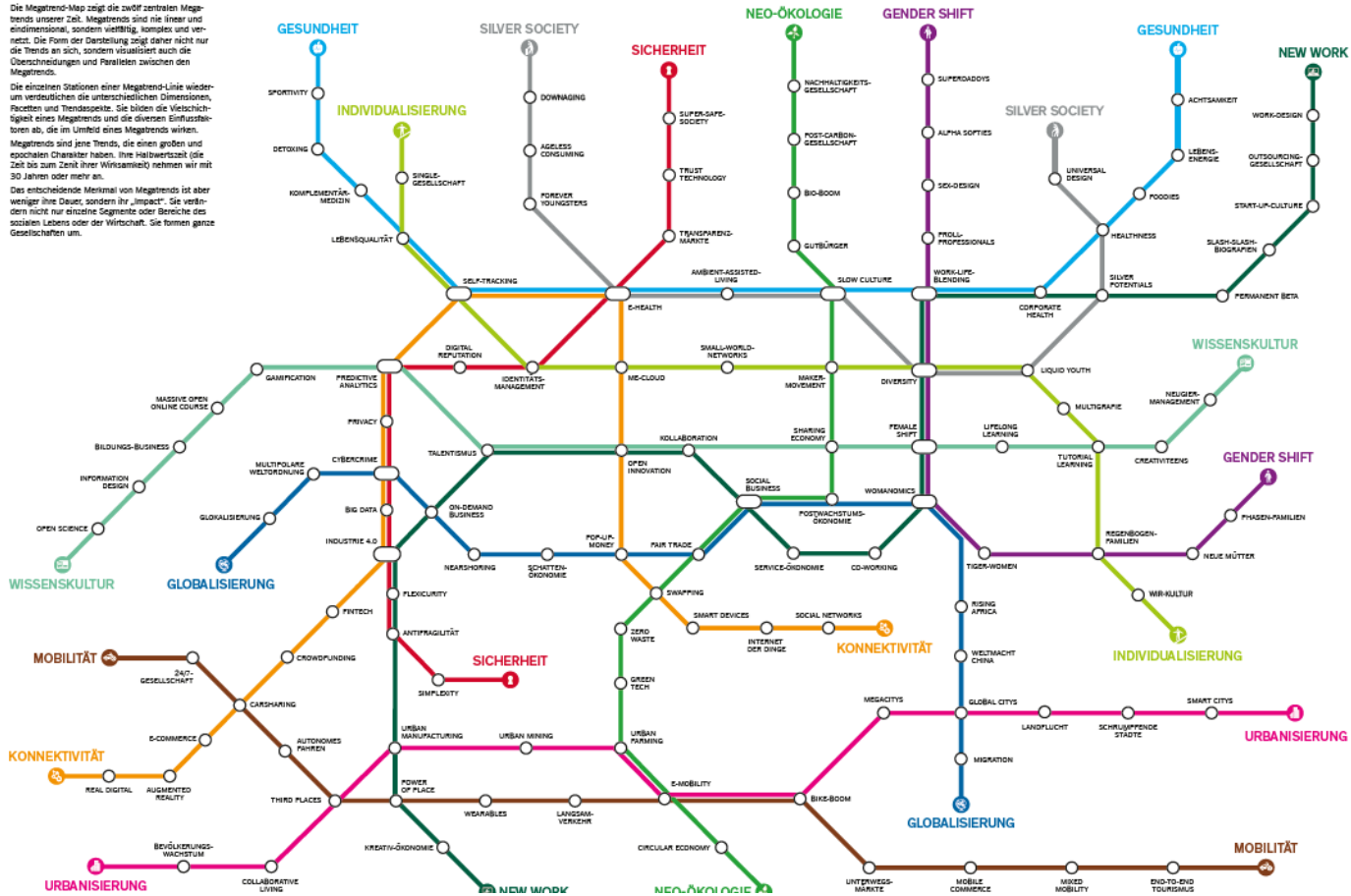
Die Megatrend-Map zeigt die zwölf zentralen Megatrends unserer Zeit. Megatrends sind nie linear und eindimensional, sondern vielfältig, komplex und vernetzt. Die Form der Darstellung zeigt daher nicht nur die Trends an sich, sondern visualisiert auch die Überschneidungen und Parallelen zwischen den Megatrends.

Die einzelnen Stationen einer Megatrend-Linie wiederum verdeutlichen die unterschiedlichen Dimensionen, Facetten und Trendsaspekte. Sie bieten die Vielschichtigkeit eines Megatrends und die diversen Einflussfaktoren ab, die im Umfeld eines Megatrends wirken. Megatrends sind jene Trends, die einen großen und epochalen Charakter haben. Ihre Halbwertszeit (die Zeit bis zum Zerkn ihrer Wirksamkeit) nehmen wir mit 30 Jahren oder mehr an.

Das entscheidende Merkmal von Megatrends ist aber weniger ihre Dauer, sondern ihr „Impact“. Sie verändern nicht nur einzelne Segmente oder Bereiche des sozialen Lebens oder der Wirtschaft. Sie formen ganze Gesellschaften um.

Weitere Informationen finden Sie unter www.zukunftsinstitut.de/megadoku

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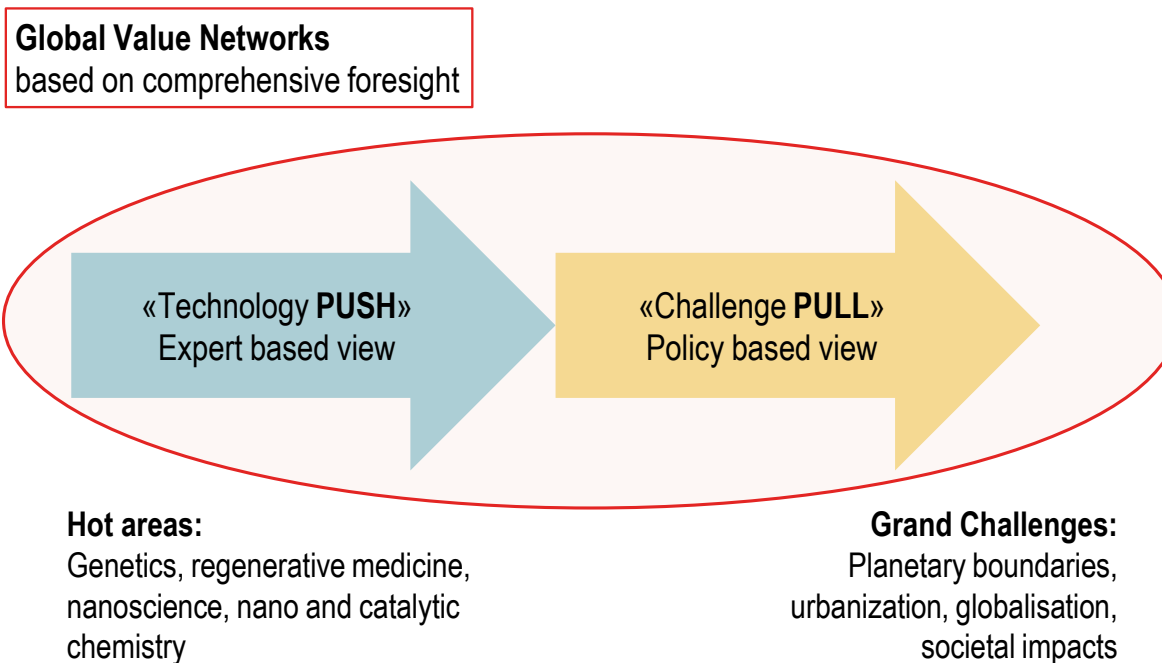
From trends to policy needs

Trends		Effects	Impacts on Society and Science	Policy Needs
1	Planetary Boundaries	<ul style="list-style-type: none"> – Climate change with its various impacts 	<ul style="list-style-type: none"> – Conflicts over water, land resources and food – Migration on a global scale 	<ul style="list-style-type: none"> – Reflexion on planetary boundaries – Unbundling of economic growth and resource consumption – Impact oriented policies
2	Digital Transformation	<ul style="list-style-type: none"> – Acceleration of technological change – Advanced automation – Loss of jobs <-> new jobs 	<ul style="list-style-type: none"> – Structural unemployment – Gap between the «fits and haves» <-> «less fits and haves not» 	<ul style="list-style-type: none"> – Ecosystems of innovation assuring conscious innovation – Concepts for re-skilling and augmented learning – Economic concepts beyond GDP
3	Urbanization	<ul style="list-style-type: none"> – Megacities – Resource needs – Concentration of innovation 	<ul style="list-style-type: none"> – Innovation hubs: Cities becoming living labs – Smart specialisation of regions based on particular strengths 	<ul style="list-style-type: none"> – New models for societal contributions and rewards in order to assure peaceful societies – Investments in integrated big data infrastructure and in large research infrastructures – Retrofitting cities
4	Globalization beyond Mobility	<ul style="list-style-type: none"> – Vanishing borders – Atomisation of structures and institutions 	<ul style="list-style-type: none"> – Diversity <-> fragmentation – Value ecosystems – Transactional borders 	<ul style="list-style-type: none"> – Reframing the interface of public / private – New regulations and new definition of public and private issues
5	New Actors	<ul style="list-style-type: none"> – New values and life styles – Private equity as political actor – Crowd sourcing and crowd funding 	<ul style="list-style-type: none"> – Increase of purpose driven research – Citizen's science and collaborative research – Faster solutions to Grand Challenges? – Less blue sky research? 	<ul style="list-style-type: none"> – New Business Models: Working in inter- and transinstitutional ways – Transaction based taxation – Managing the reduced importance of IPR

- **Trends** include opportunities as well as threats....
- **Need** to address challenges effectively and efficiently....

Global Value Network: Concept

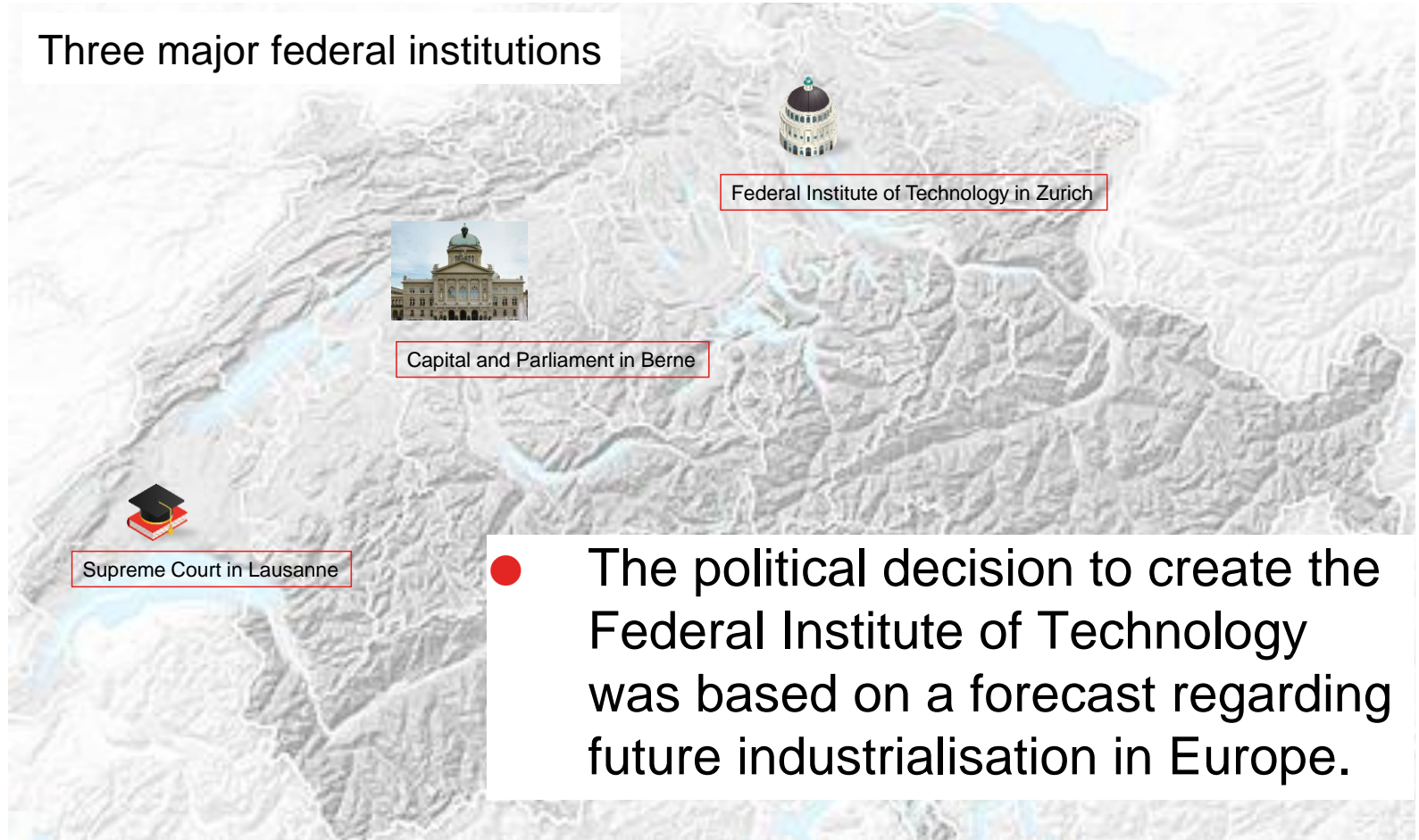
- A Global Value Network (GVN) describes an area of technological and societal change based on global demand.



Case Study Zurich Region

1848: Political Decisions with Great Impact

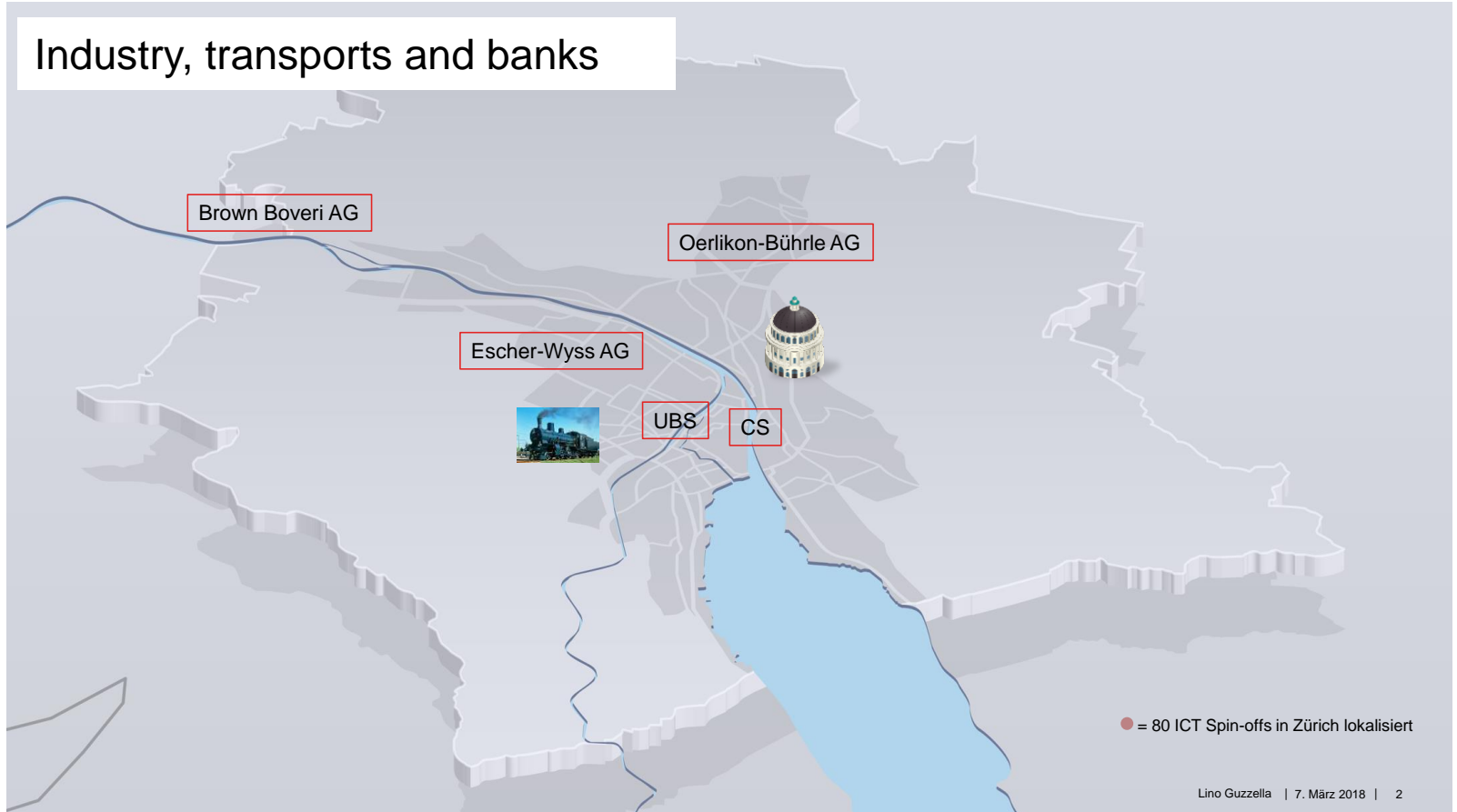
Three major federal institutions



- The political decision to create the Federal Institute of Technology was based on a forecast regarding future industrialisation in Europe.

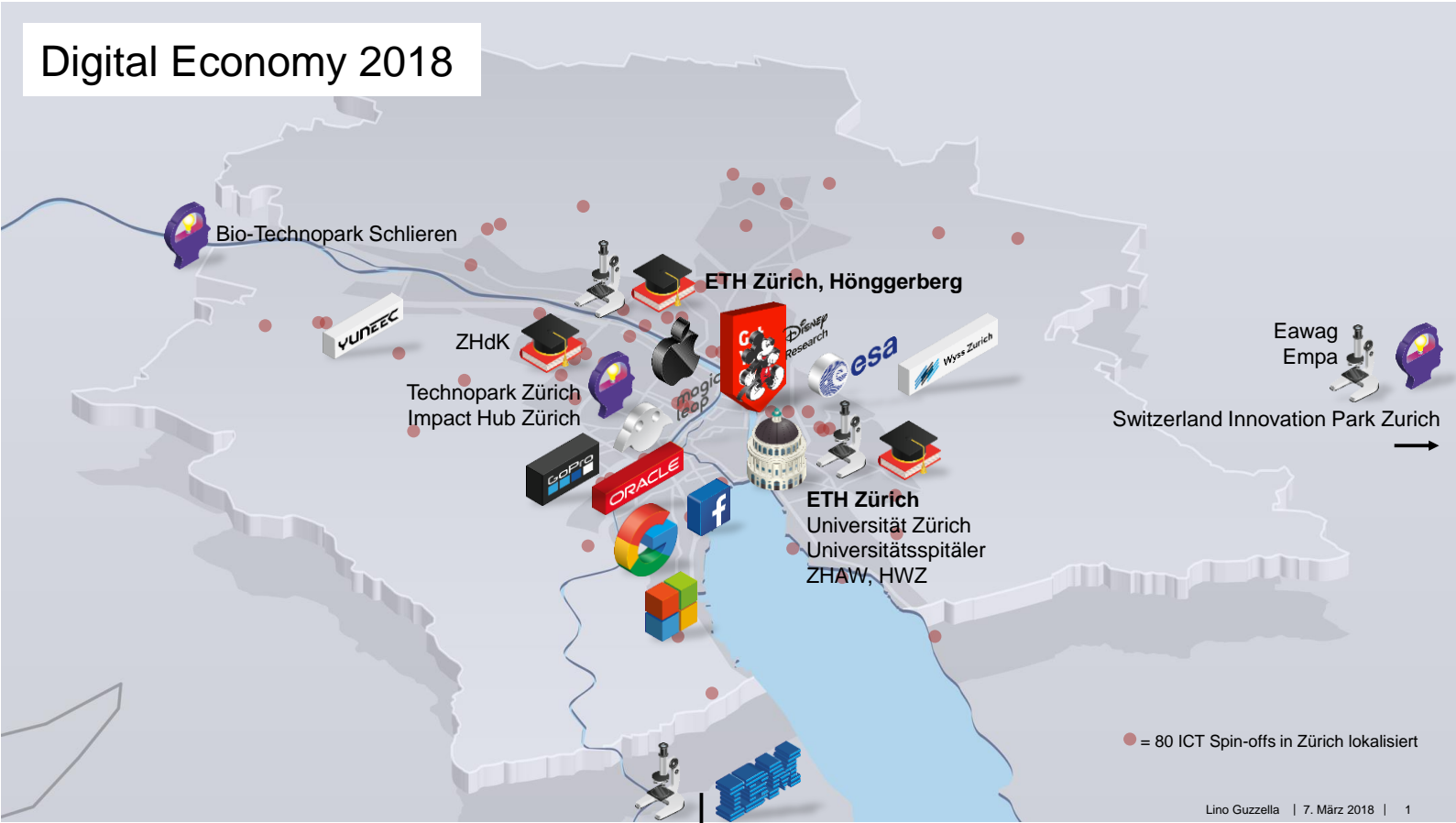
Case Study Zurich Region

ETH Zurich: Driver of innovation 1855



Case Study Zurich Region

ETH Zürich: Driver of innovation 2018



Case Study Zurich Region: What it took

- **A university of global competitiveness....**
 - attracting best faculty, students and global companies
 - offering talents to industries
 - working in networks with industries and authorities
- **Global companies...**
 - pushing innovation to the markets
- **Public policies open to innovation....**
 - linking science and industry
 - offering high quality public services
- **Personalities...**
 - with entrepreneurial spirit
 - working across sectors



Case Study Zurich Region

What it delivered

.... and what not

- **Innovation and talents**

- attracting new and global companies
- restructuring the economy according to new needs and opportunities

- **Economic growth**

- coping with financial and political crises
- supporting high level public services and cultural offers

- **Sustainability**

- reducing Zurich's global footprint
- solutions sizable for the world
- effective and efficient use of innovation

- **Values**

- regarding planetary boundaries
- integrating needs and social capital of the «less fits/have nots»

Case Study Zurich Region: What it still needs...

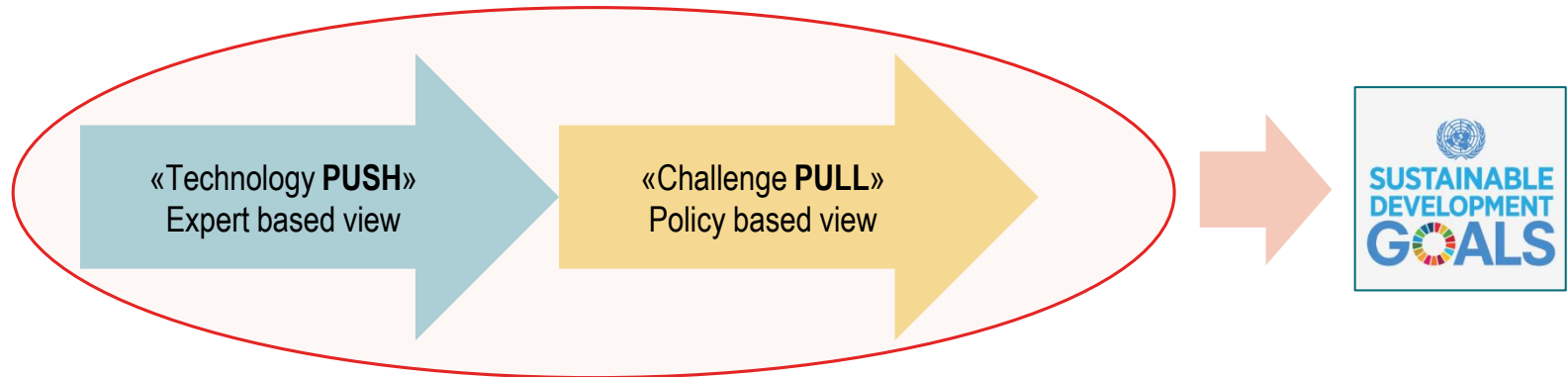
- **Networks cooperating towards SDG**
 - Inter- and trans-institutional cooperation local -> global
 - Bringing together public and private responsibilities
 - Linking science policies directly to sectoral policies
- **Strong public and private investments in science**
 - Excellent universities and research infrastructures
 - Participatory citizen science and living labs
 - Foresight in its double role of impacting while analysing
- **Economic and societal concepts beyond GDP**
 - Unbundling growth and resource consumption
 - Addressing long term (un-) employment issues
 - Sharing economies and better use of social capital

Key elements for successful GVN

- **GVNs** linking technology-PUSHs and challenges-PULLs in a comprehensive approach to address opportunities and threats effectively and efficiently.
- **Agenda 2030** with its 17 SDG as framework structuring the demand side and mission to be addressed by GVN.
- **Impact-orientation** throughout the whole governance cycle (back-casting).
- **Foresight** integrated and impacting all phases of the overall and impact-oriented governance cycle.
- **Whole of Governance** approach fostering inter- and trans-institutional cooperation to achieve coherent solutions.

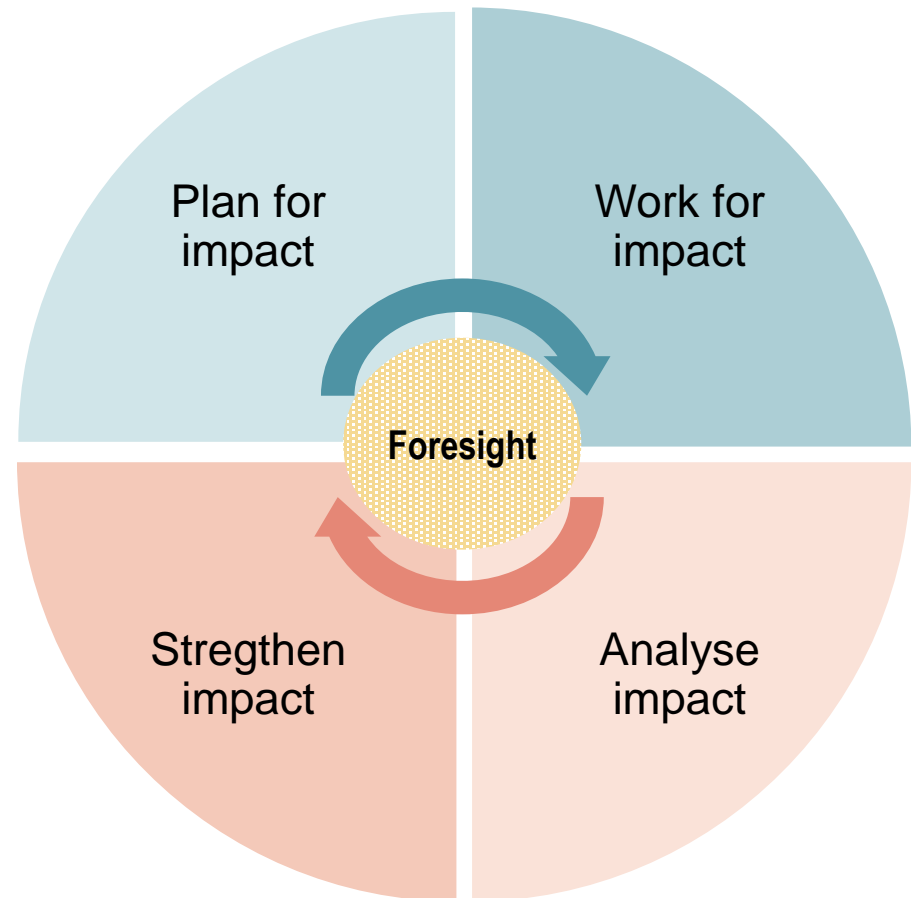
GVNs oriented towards the Agenda 2030

Global Value Networks
based on comprehensive foresight



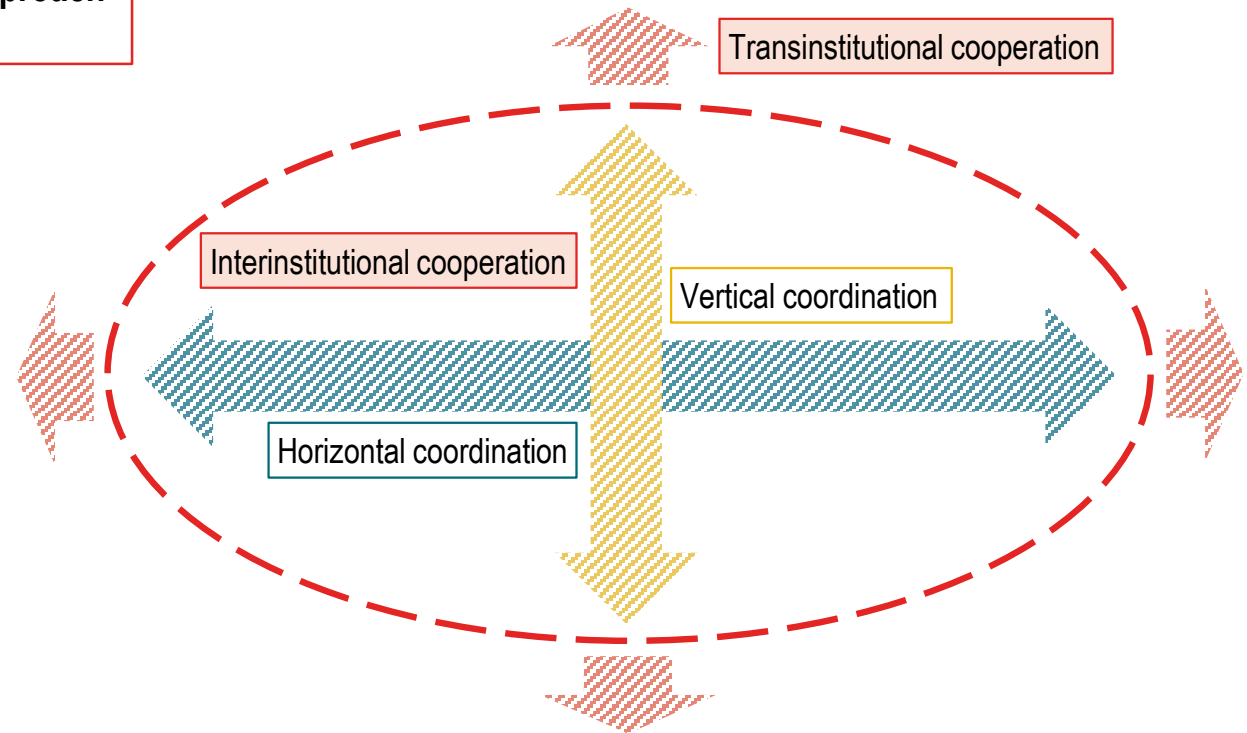
Impact oriented governance integrating foresight

Foresight integrated in a
impact-oriented governance



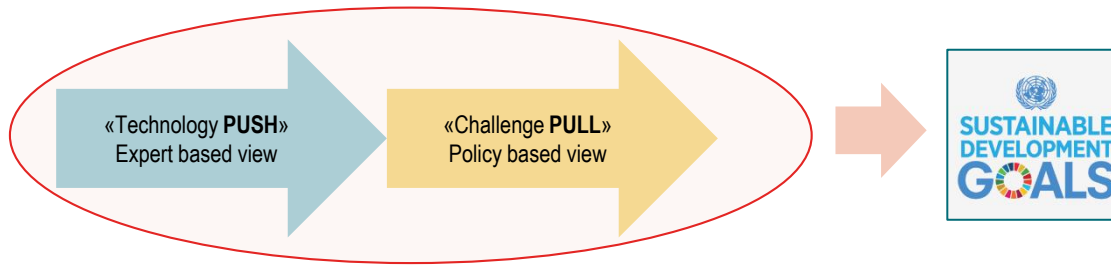
Whole of Governance Approach

Whole of Governance Approach
inter- and transinstitutional

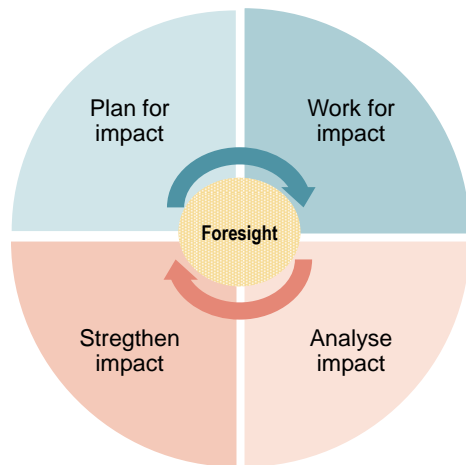


Business Model Innovation for a changing world

Global Value Networks
based on comprehensive foresight



Foresight integrated in a
impact-oriented governance



Whole of Governance Approach
inter- and transinstitutional

