

Stakeholder Engagement and Participation

UN Capacity building workshop and expert group meeting on
Integrated Approaches to Sustainable Development Planning
and Implementation

UN, NYC May 27-29, 2015

John Holmberg

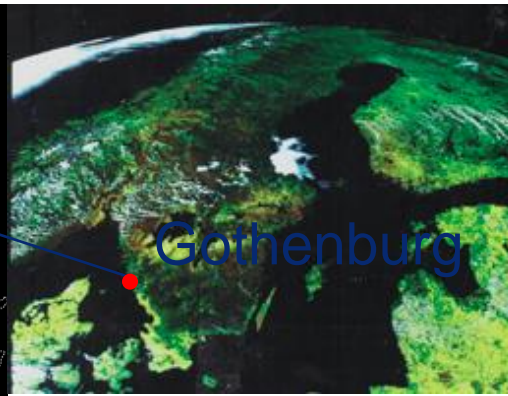
Professor and UNESCO chair holder

Vice president, Chalmers University of Technology, Sweden





Sweden



Gothenburg



CHALMERS

.. situated on the west coast of Sweden
... with two campuses in the centre of Gothenburg



Keys to succeed with the transformation

1. Understand that SD is a transformation.
2. Agree on a clear why
3. Co-create
4. Start from people (not technology).

The transformation

High intensity
High efficiency
Low Material growth



High intensity
Low efficiency
High Material growth



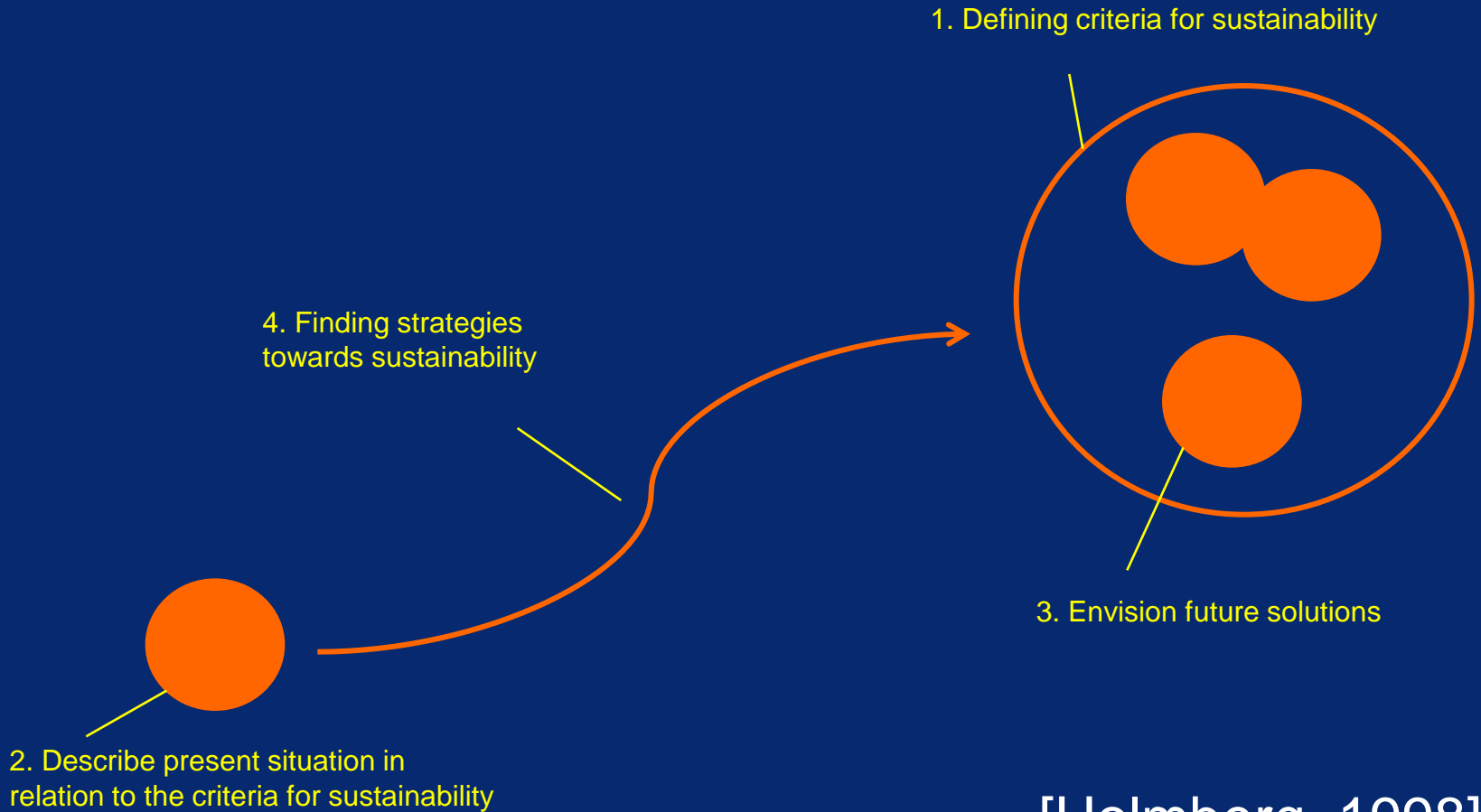
Low intensity
Low efficiency
Low Material growth



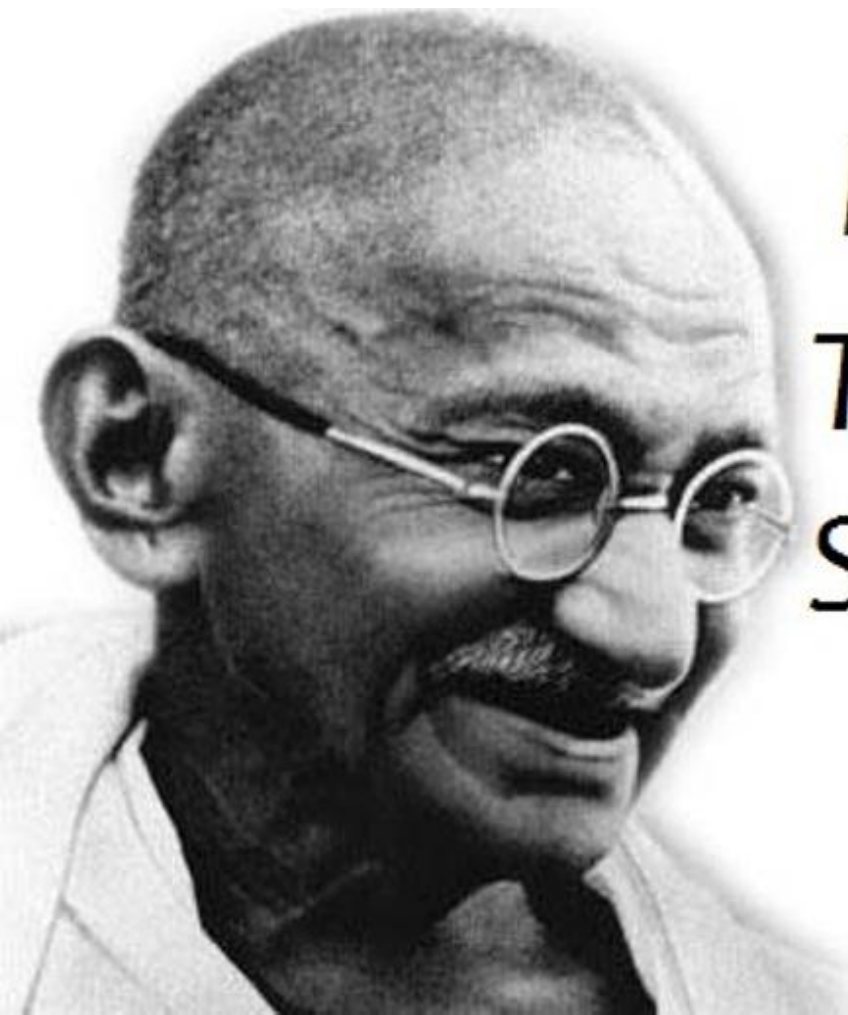
Keys to succeed with the transformation

1. Understand that SD is a transformation.
2. Agree on a clear why (backcasting)
3. Co-create
4. Start from people (not technology).

Backcasting



[Holmberg, 1998]



*Be The **Change**
That You Want to
See In The World.*



Sustainable Chemistry 2030

Now we take on a major challenge. Within 20 years Stenungsund will be the engine in western Sweden's economy. Our companies will be world leaders in the development of sustainable products, efficient production and renewable fuels. And we will be proactive in the transition to a future society where resources are used effectively and our products are recycled.

KEMIFÖRETAGEN I STENUNGSUND

AGA
AkzoNobel
Borealis
INEOS
Perstorp

GoBiGas – the world's largest demonstration plant for biomethane production



GoBiGas = Gothenburg Biomass Gasification project

Purpose: Shall in a commercial scale demonstrate the possibilities of gasification to produce renewable and CO₂-neutral biomethane

Project owner: Göteborg Energi AB

How to solve a big problem?

Make it BIGGER!

ASTAZERO

ACTIVE SAFETY TEST AREA



SAFER

VEHICLE AND TRAFFIC SAFETY CENTRE AT CHALMERS

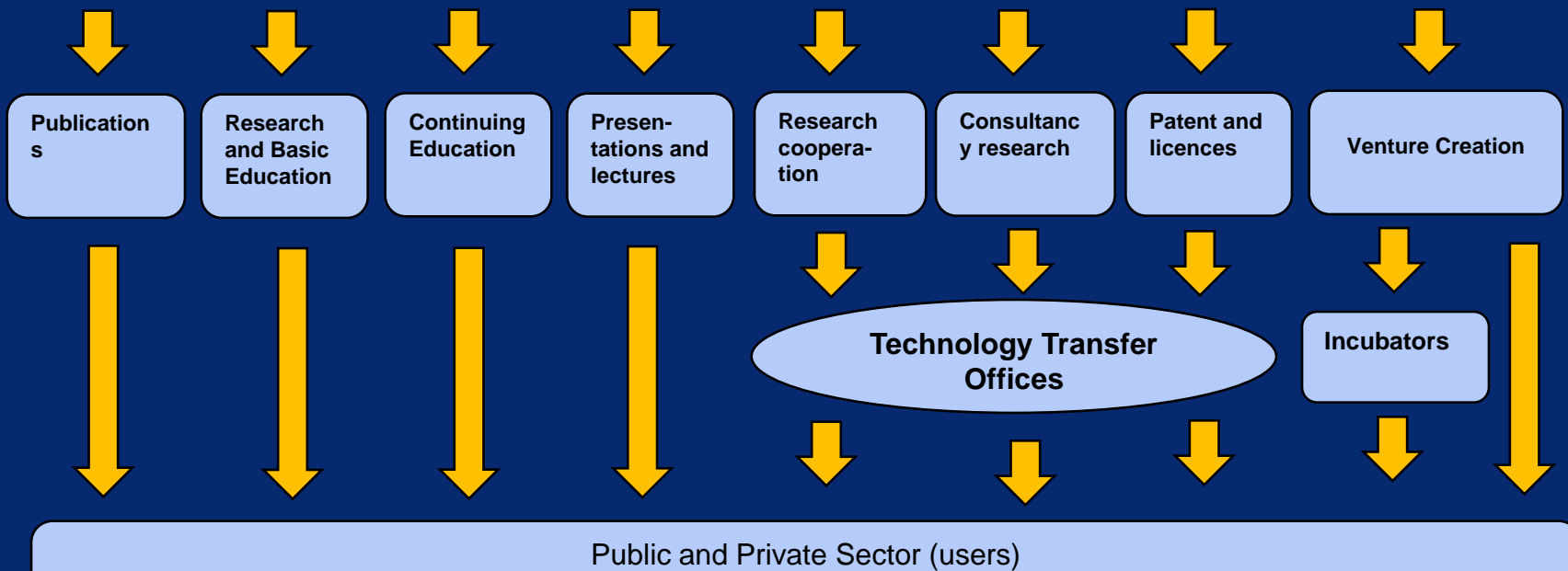
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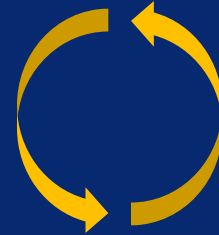
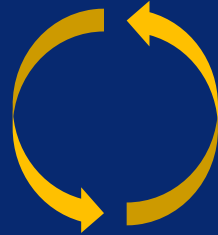
Traditional view on the role of Universities

Academic Research (producers)

The results are disseminated



Academic Research



Publications

Research
and Basic
Education

Continuing
Education

Communi-
cation

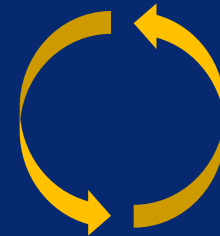
Research
cooperation

Consultancy
Research

Patent och
licences

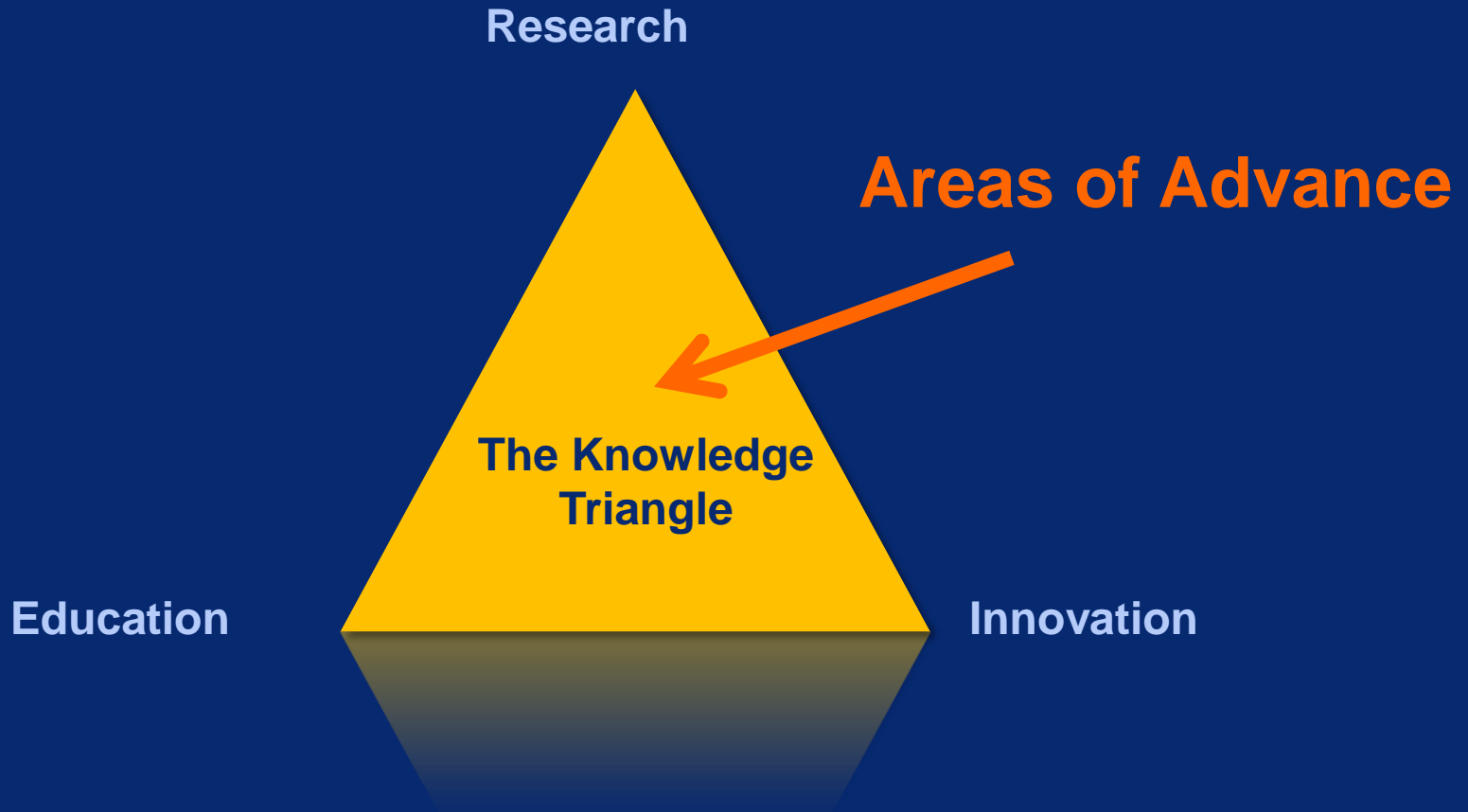
Venture Creation

Knowledge Clusters (co-production)



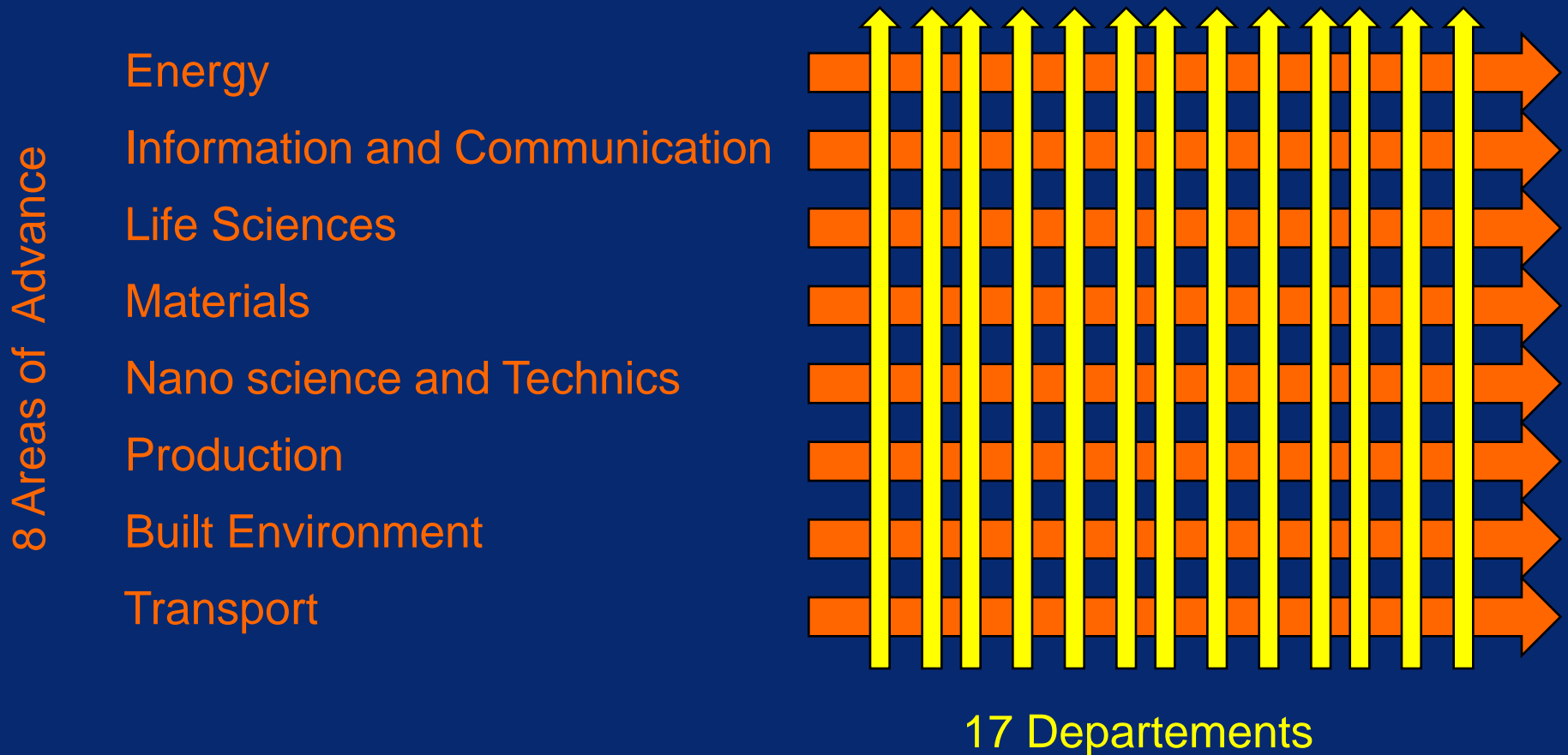
Public and Private Sector Research and Practice

How can universities contribute?



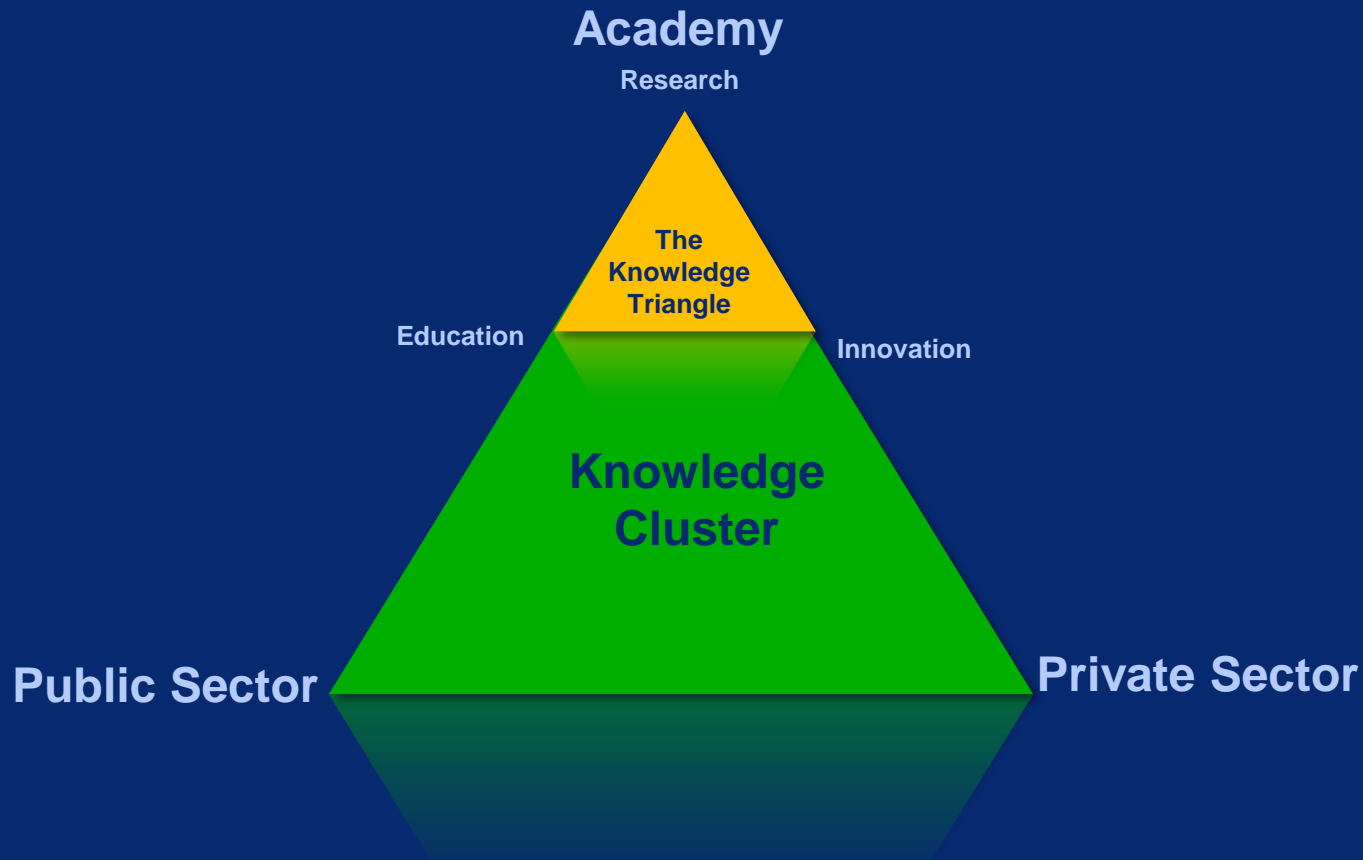
- INTEGRATION OF RESEARCH-EDUCATION-INNOVATION
- NEUTRAL MEETING PLACES WITH NEW OPTIONS FOR INTERACTION

Matrix organization



Sustainable development provide the driving force!

TRIPPEL HELIX



- IDENTIFIED CHALLENGES, STRENGTHS, OPORTUNITIES AND ROLES
 - UNIVERSITIES AS NODES IN GLOCAL KNOWLEDGE CLUSTERS
 - ATTRACT COMPETENCE AND INVESTMENTS

FiveClusters

FIVE CLUSTERS IN WEST SWEDEN WITH STRENGTH AND POTENTIAL FOR THE FUTURE



Urban Future

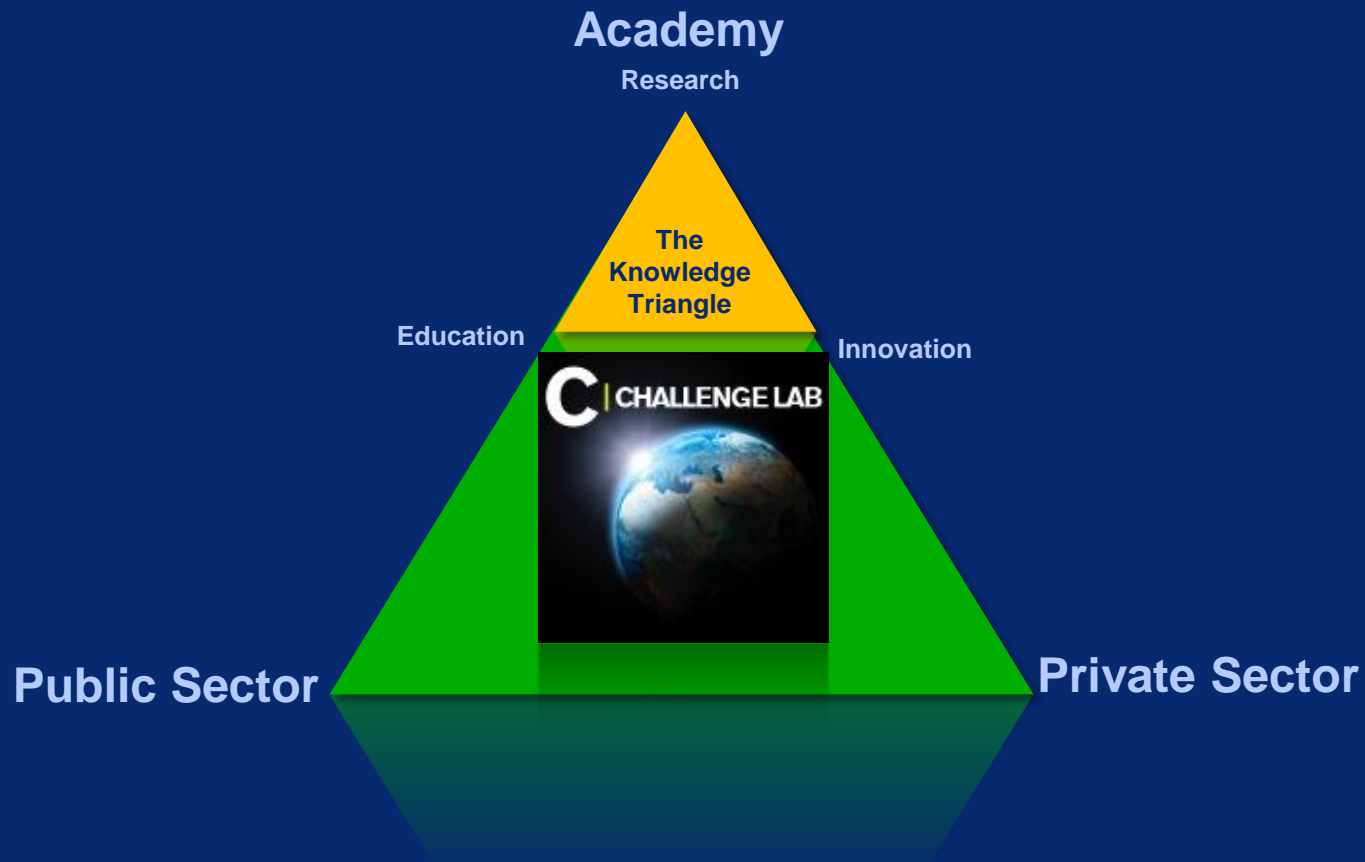
The Marine Environment and the Maritime Sector

Transport Solutions

Green Chemistry and Bio Based Products

Life Science

Students in the centre



C | CHALLENGE LAB

Where students becomes change agents by taking on complex societal challenges with industry, academia and society.



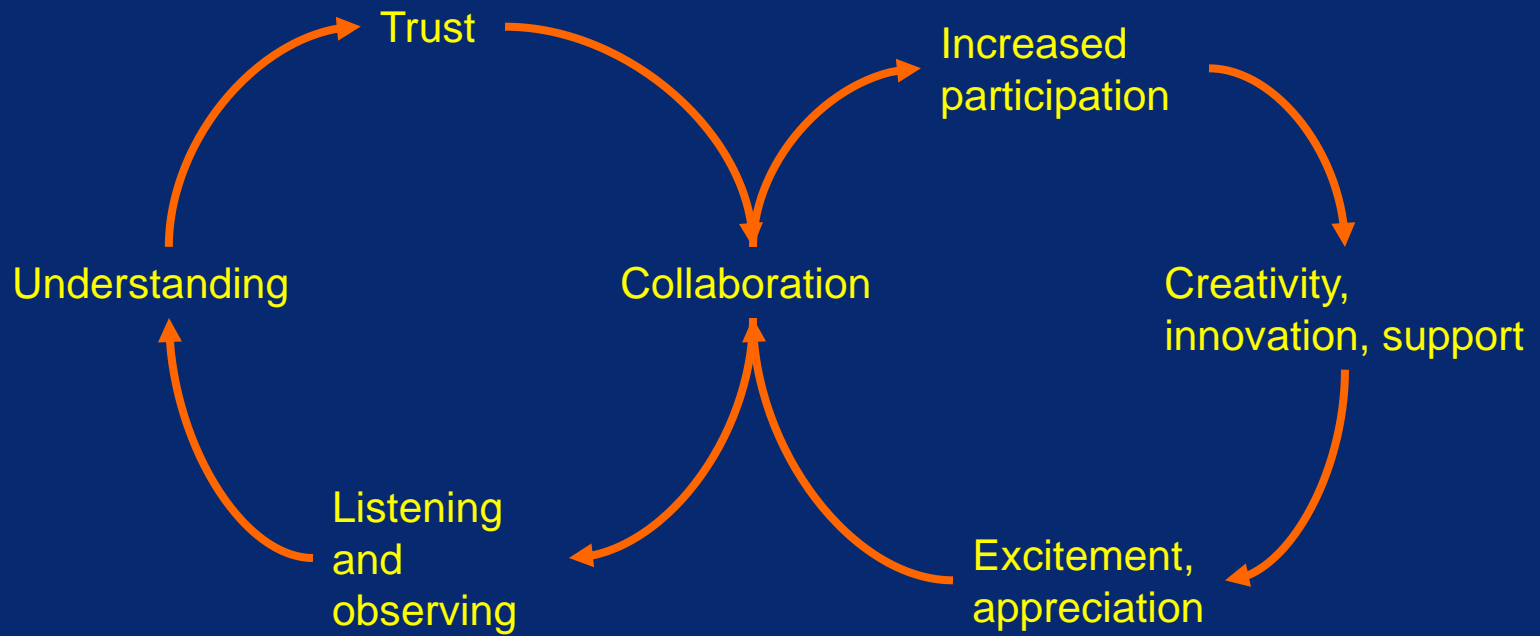
Take transdisciplinarity seriously



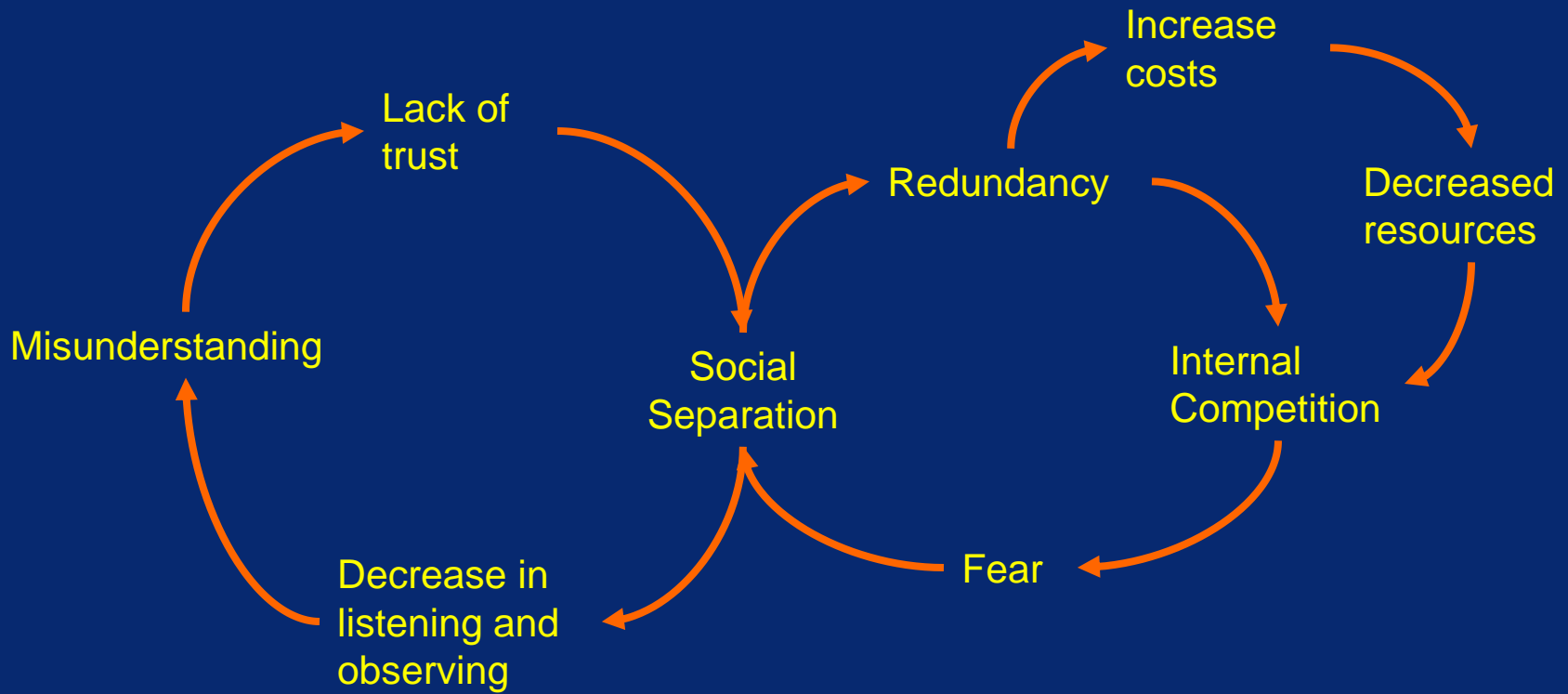
Creating the space for change

The conscious acts of creating space, of engaging people in genuine questions, and of convening around a clear intention with no hidden agenda, creates a very different type of energy from that which arises from seeking to get people committed to your plan.

(Senge 2014)



Collaboration begins with listening



The cost of not listening

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Meeting the challenge of sustainable development

1. Technical innovations will solve the problem
2. Need for lifestyle changes implying sacrifices of well-being

Meeting the challenge of sustainable development

1. Technical innovations will solve the problem
2. Need for lifestyle changes implying sacrifices of well-being
3. Stronger focus on well-being might be a driving force for Sustainable development



WISE

Well-being In Sustainable cities



MISTRA
**URBAN
FUTURES**



Mistra Urban Futures Reports
2014:01

Low-carbon Gothenburg 2.0

Technological potentials and lifestyle changes



Jörgen Larsson, Chalmers University of Technology
Lisa Bolln, SP Technical Research Institute of Sweden



CLIMATE PROGRAMME FOR GOTHENBURG

VERSION
2014-09-04







The Politics of Happiness

The name Bogota conjures images of kidnapping, murder, and drug wars. But today's Bogota is safer than Washington, D.C., or Baltimore. A visionary mayor discovered the secret to making his city safe. Enrique Penalosa tells Susan Ives the story.

by Enrique Peñalosa, Susan Ives

posted May 20, 2004

We really have to admit that over the past 100 years we have been building cities much more for mobility than for people's well-being. Every year thousands of children are killed by cars. Isn't it time we build cities that are more child-friendly? Over the last 30 years, we've been able to magnify environmental consciousness all over the world. As a result, we know a lot about the ideal environment for a happy whale or a happy mountain gorilla. We're far less clear about what constitutes an ideal environment for a happy human being. One common measure of how clean a mountain stream is is to look for trout. If you find the trout, the habitat is healthy. It's the same way with children in a city. Children are a kind of indicator species. If we can build a successful city for children, we will have a successful city for all people.

When I was elected mayor of Bogotá and got to city hall, I was handed a transportation study that said the most important thing the city could do was to build an elevated highway at a cost of \$600 million. Instead, we installed a bus system that carries 700,000 people a day at a cost of \$300 million. We created hundreds of pedestrian-only streets, parks, plazas, and bike paths, planted trees, and got rid of cluttering commercial signs. We constructed the longest pedestrian-only street in the world. It may seem crazy, because this street goes through some of the poorest neighborhoods in Bogotá, and many of the surrounding streets aren't even paved. But we chose not to improve the streets for the sake of cars, but instead to have wonderful spaces for pedestrians. All this pedestrian infrastructure shows respect for human dignity. We're telling people, "You are important—not because you're rich or because you have a Ph.D., but because you are human." If people are treated as special, as sacred even, they behave that way. This creates a different kind of society.



Enrique Penalosa, mayor of Bogotá, Colombia, 1995-1998. photo by Susan Ives

Bogota, Columbia



Enrique Penalosa, mayor 1995-1998

**It is a dynamic system — manage
challenges (can not be solved) and be
flexible for uncertainties**



Conclusion I

1. Understand that SD is a transformation.
 - It involves all -> avoid lock-in effects
 - ~~Telling~~ listening to bring people onboard
2. Agree on a clear why.
 - Back-cast from a wanted future
 - Stay in the question before seeking solutions
 - Robust principles simplifies without reducing the complexity
 - Solve big problems by making them bigger

Conclusion II

3. Co-create

- Structure is important -> build relevant gutters between the drainpipes and connect gutters through common challenges -> take transdisciplinarity seriously
- Identify and empower change agents, e.g. students
- Create space for change
- Co-creation is built on trust, which is built on listening and understanding

4. Start from people (not technology)

- People integrate all dimensions of SD in their living
- A stronger focus on true wellbeing might be a driving force for SD
- People are globally connected through consumption and information

The second mouse gets the chees



Chalmers for a sustainable future



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Table 1. Selected milestones in Chalmers' journey toward sustainability.

1985	Environmental courses required for all students at Chalmers	Instead of introducing a specific educational programme on environmental science, in 1985, Chalmers launched a policy whereby all students are required to take environmental courses in the first years. Furthermore, all students should be able to choose an environmental profile toward the end of the programme.
1989	A virtual School of Environment is founded	In 1989, a virtual School of Environment was founded jointly with the Faculty of Mathematics and Science at the University of Gothenburg. The virtual School of Environment created formal structures for establishing environmental research and offering PhD programmes in environmental science at Chalmers and supported the environmental course requirements.
2000	Centre for Environment and Sustainability, GMV, is founded	In 2000, the virtual School of Environment became the Centre for Environment and Sustainability, GMV, which covered Chalmers and all faculties of University of Gothenburg. GMV was assigned the task of generally supporting and developing research and education in environment and sustainable development at both universities and in close collaboration with the external stakeholders.
2000-2008	Chalmers Environmental Initiative, CEI (SEK 100 million)	The Chalmers Environmental Initiative, CEI, was launched at almost the same time as GMV was founded. CEI was a research strategy focusing on the environment and sustainable development. The aim was to incorporate an environmental and sustainability perspective into research and education throughout Chalmers. The initiative led to the setting-up of seven new sustainability-related chairs. These were deployed at the seven different schools in order to ensure a good spread and thereby potentially influencing all of Chalmers.
2001	Chalmers became a member of the Alliance for Global Sustainability (AGS)	AGS is an international partnership between Chalmers, MIT (Cambridge, USA), ETH (Zürich, Switzerland) and Tokyo University (Tokyo, Japan) with the aim of pursuing research and development within complex global issues, focusing on environmental science and sustainable development.
2003	The equivalent of five weeks of courses in environment and sustainable development required for all students	In 2003, the President decided to launch a requirement of the equivalent of five weeks of courses in environment and sustainable development for all students in all bachelor programmes. Furthermore, all students should be able to choose a sustainability-profiled master's programme.

Table 1. Continued

2006-2009	Project: Education for Sustainable Development, ESD	The project Education for Sustainable Development, ESD, was started in 2006 in order to adopt a comprehensive approach to education for sustainable development. (Holmberg <i>et al.</i> 2011). This was also linked to Sweden's first UNESCO chair in Education for Sustainable Development, established at Chalmers the same year.
2008	Chalmers vision: 'Chalmers – for a sustainable future'	Sustainability is the driving force for the university. Based on the on-going mainstreaming process, it has been widely accepted at the university that sustainability is the driving force for education, research and innovation and hence for the Areas of Advance (see below).
2009	Chalmers launched a matrix organisation, with eight so-called Areas of Advance for transition toward sustainability	Areas of Advance: Energy, Transport, Built Environment, Life Science Engineering, Nanoscience and Nanotechnology, Materials Science, Information and Communication Technology, and Production. In an Area of Advance, education, research and innovation activities at Chalmers that are linked to the theme of the Area become 'visible' to each other and to the surrounding world. This makes efficient collaboration within Chalmers, with other universities, and with industry and other external groups much easier. The individual faculty members are still members of their departments but also active and visible in the Areas of Advance (the same idea as for GMV, above).
2011	Five knowledge clusters were launched in the region West Sweden	Knowledge clusters: Urban Future, Marine Environment and Maritime Sector, Green Chemistry and Bio-based Products, Sustainable Mobility, and Life Science). These five clusters were identified by leading representatives from academia and the private and public sectors in the region. At present, these clusters are being shaped with involvement from academia and the public and private sectors in order to build trust and create engagement, creativity and attractiveness for real change toward sustainability.
2014	The Challenge Lab was launched	In the Challenge Lab, students become change agents by taking on complex societal challenges together with industry, academia and the public sector (related to the five clusters mentioned above). The concept behind Challenge Lab affirms that students have abilities that go beyond what any actor in society can do alone and therefore can become change agents that can bring about transformative societal solutions.

Holmberg, J. 2014. Transformative learning and leadership for a sustainable future: Challenge Lab at Chalmers University. in: Corcoran, P. B. and B. P. Hollingshead (Eds.). *Intergenerational Learning and Transformative Leadership for Sustainable Futures*. Wageningen, The Netherlands: Wageningen Academic Publishers, 2014.

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