

# CUPAGIS: A way forward

Tarmo Soomere

Tallinn University of Technology  
School of Science, Department of Cybernetics  
Wave Engineering Laboratory

Estonian Academy of Sciences



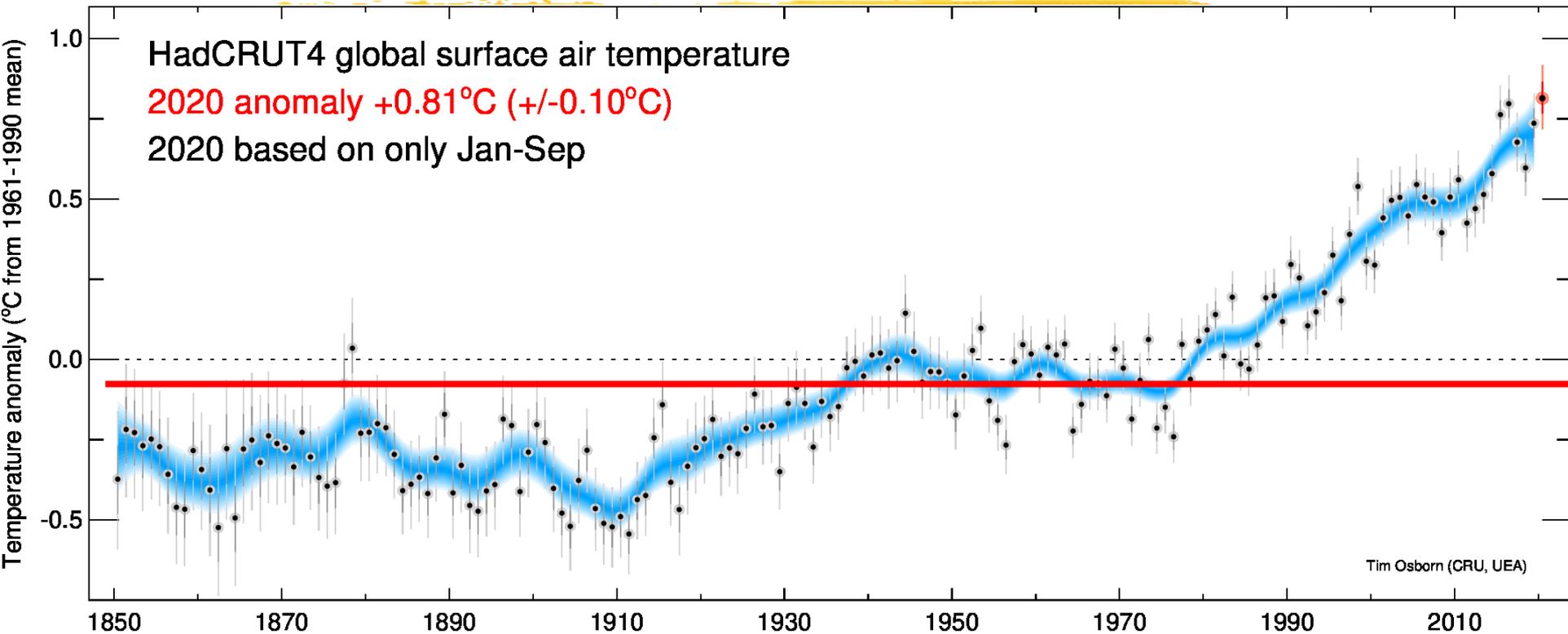


# Instead of Introduction:

# Our climate is changing So what?



# Average temperature of the Earth



2017-2020: increase by 0.06 deg

# Local view: Some climate change winners

- **The Arctic** – Access to vast expanses of previously inaccessible land
- **The oil, gas and mineral industries** – “I think it’s important to realise that this [melt] is also an opportunity” (Norway’s petroleum and energy minister)
- **Shipping** – The northwest passage becomes a viable alternative to the Panama Canal
- **High latitude agriculture** – Production belts in the northern hemisphere shift northwards
- **Plant growth** – Increased plant production (including plankton biomass which may have implications for fisheries)
- **Greenland** – Oil and gas, mineral extraction, fishing, tourism, agriculture, energy intensive industries (massive amounts of cheap hydropower), water exports

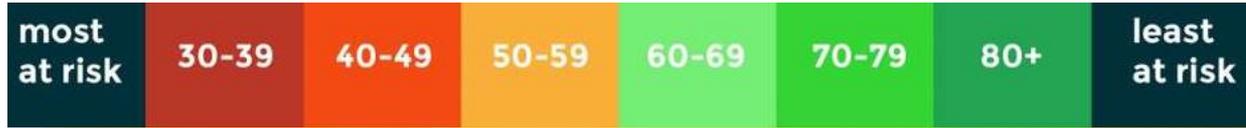


# Global view: a different picture

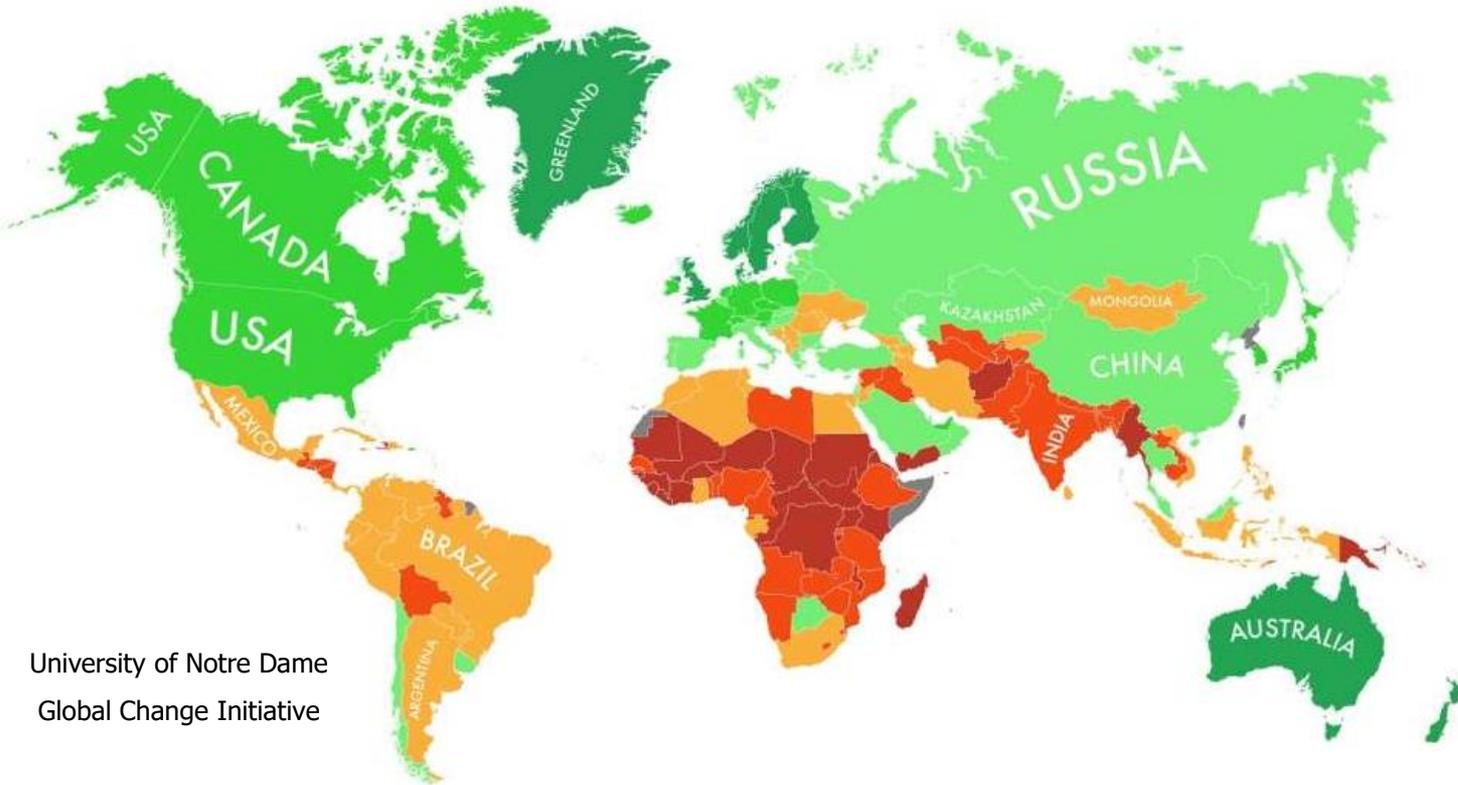
- Global warming – as any crisis – has (and will continue) to increase global economic inequality
- Wealthy countries have benefited disproportionately from the activities that have caused global warming
- while poor countries **suffer disproportionately** from the impacts



# The measure of vulnerability



Rank	Country
1	Norway
2	New Zealand
3	Finland
4	Sweden
5	Australia
6	Switzerland
7	Denmark
8	Austria
9	Germany
9	Iceland
9	Singapore
12	United Kingdom
13	Canada
14	Luxembourg
15	United States
16	Republic of Korea
17	France
18	Netherlands
19	Slovenia
20	Japan
21	Ireland
22	Czech Republic
23	Poland
24	Spain
25	Estonia
26	Belgium
27	Portugal
28	Chile
29	Israel
29	Lithuania
31	Latvia
32	Italy
33	United Arab Emirates
33	Russian Federation

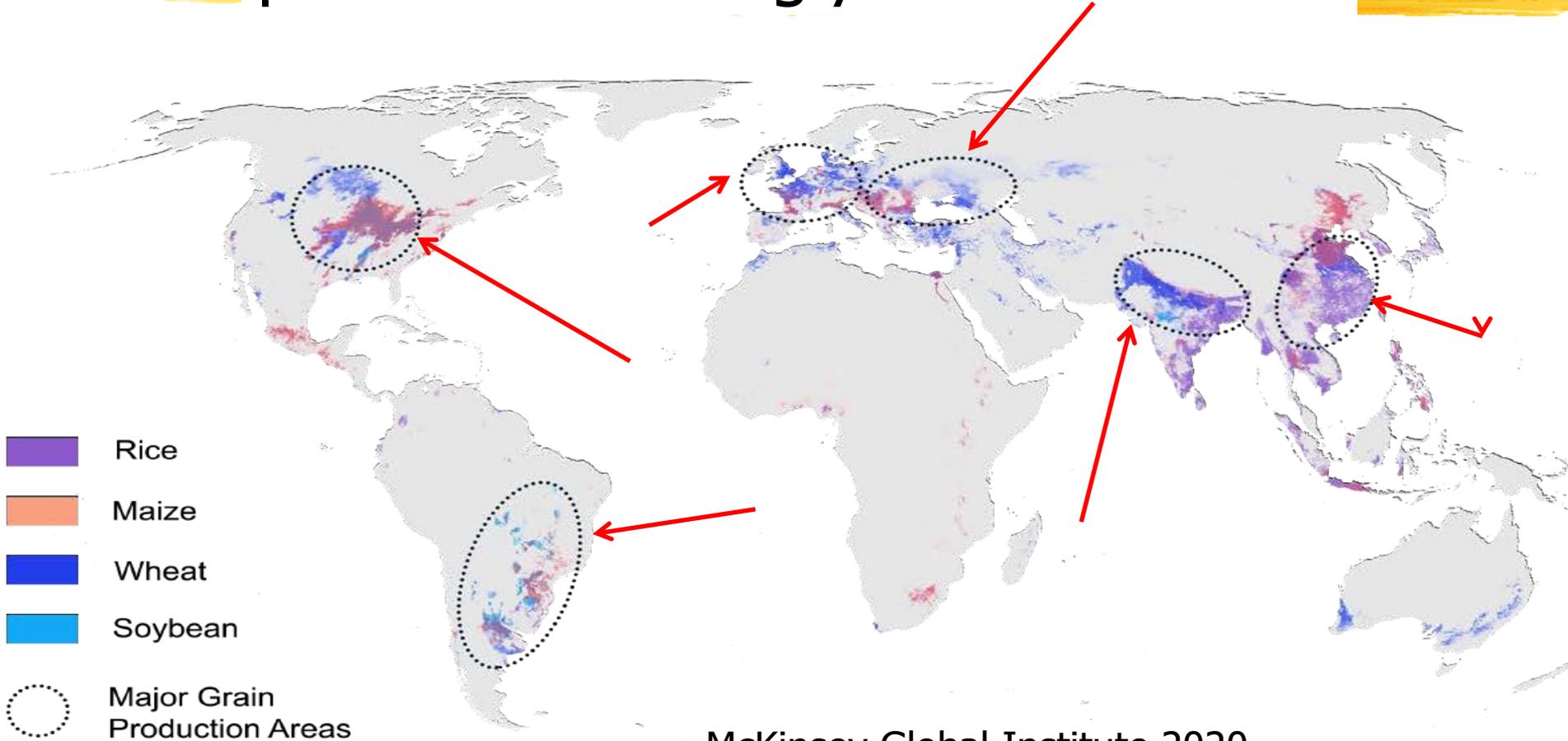


University of Notre Dame  
Global Change Initiative

Wealthy countries: small risk;  
poorer countries: large risk

173	Haiti
175	Niger
176	Sudan
177	Dem. Rep. of the Congo
178	Central African Rep.
179	Eritrea
180	Chad
181	Somalia

# Vulnerability has clear geographic pattern: food production strongly concentrated

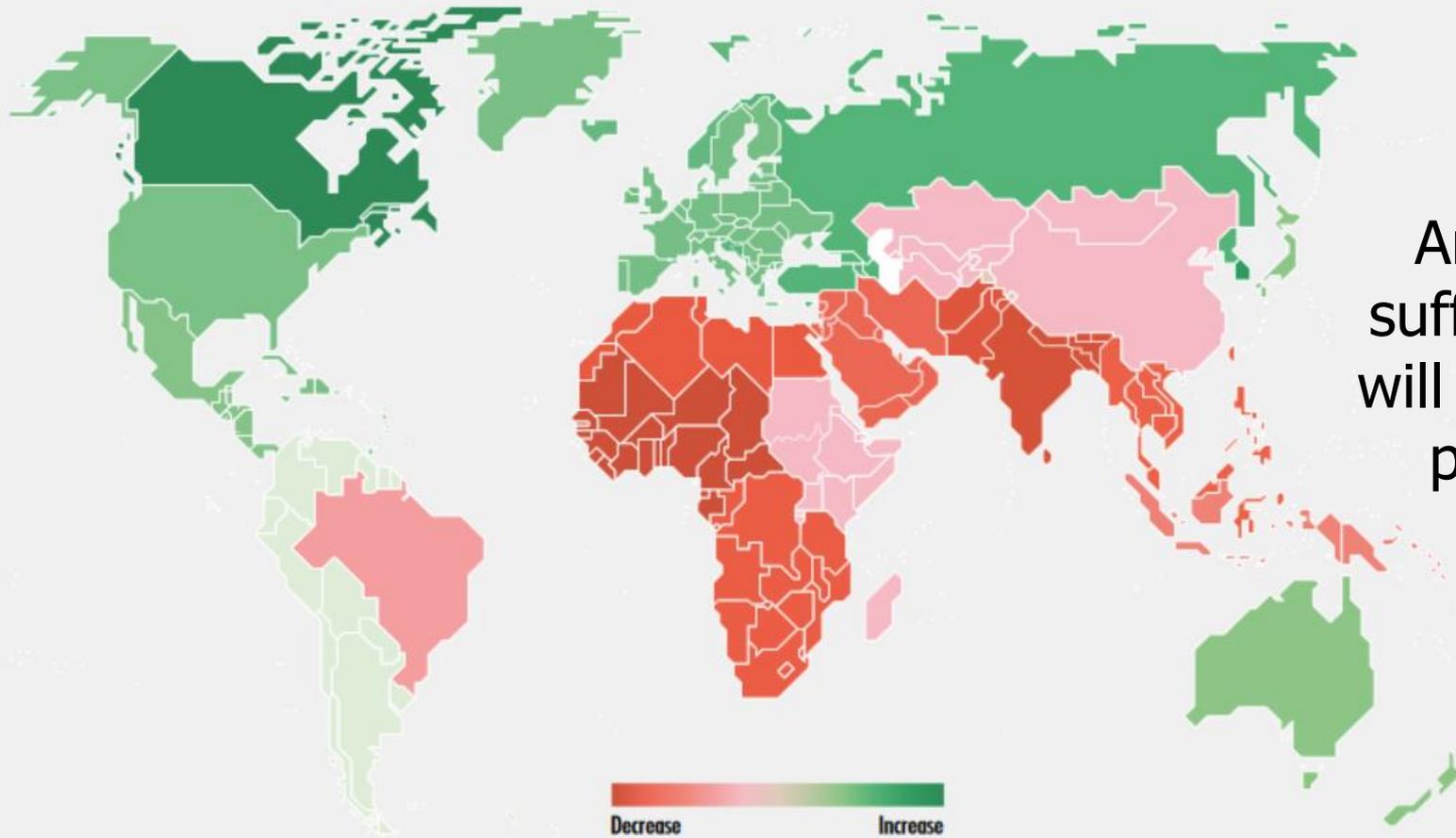


McKinsey Global Institute 2020

# The forecast until 2050



FIGURE 2.1  
CHANGES IN AGRICULTURAL PRODUCTION IN 2050: CLIMATE CHANGE RELATIVE TO THE BASELINE



Areas that suffer already will have more problems

NOTE: The final boundary between the Republic of the Sudan and the Republic of South Sudan has not yet been determined. Final status of the Abyei area has not yet been determined.

SOURCE: Based on data provided by Wageningen Economic Research. 2018. Climate Change and Global Market Integration: Implications for global economic activities, agricultural commodities and food security. SOCO 2018 Background Paper, Rome, FAO.

FAO. 2018. The State of Agricultural Commodity Markets 2018. Agricultural trade, climate change and food security. Rome



# An obvious way to the future that is worth of living:



## Food production that is

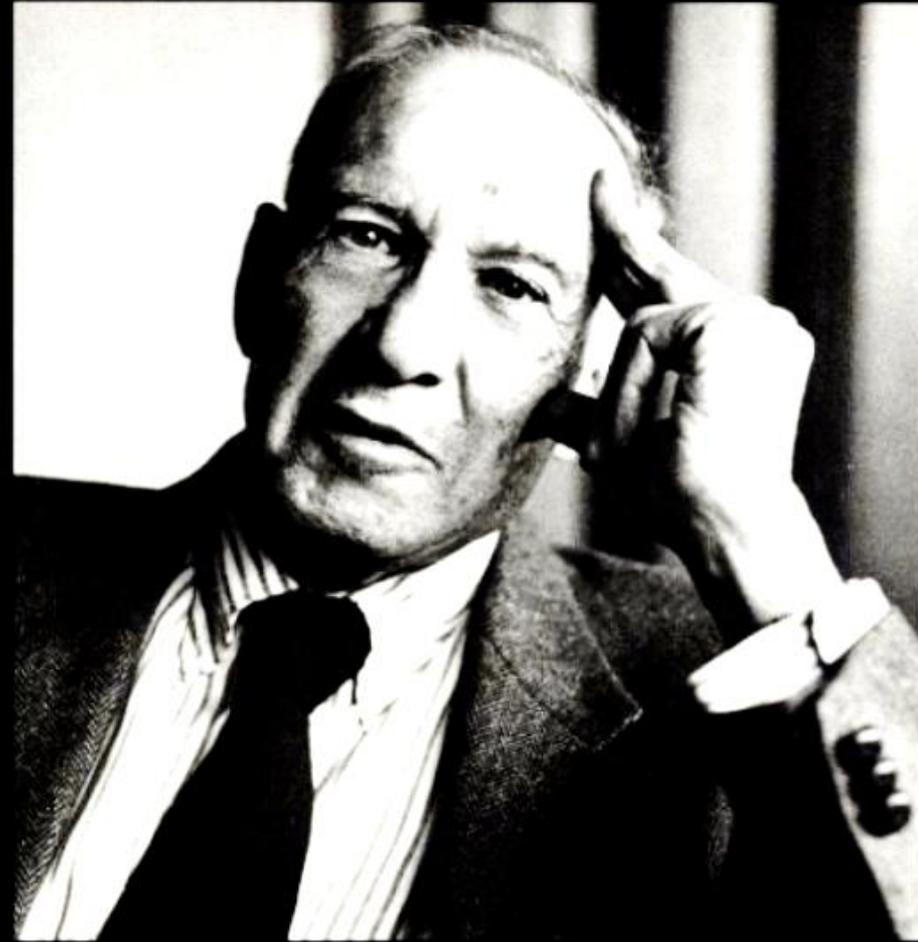
- Effective
- Sustainable
- Environmentally friendly

The common denominator

- Precision agriculture
- and its teaching



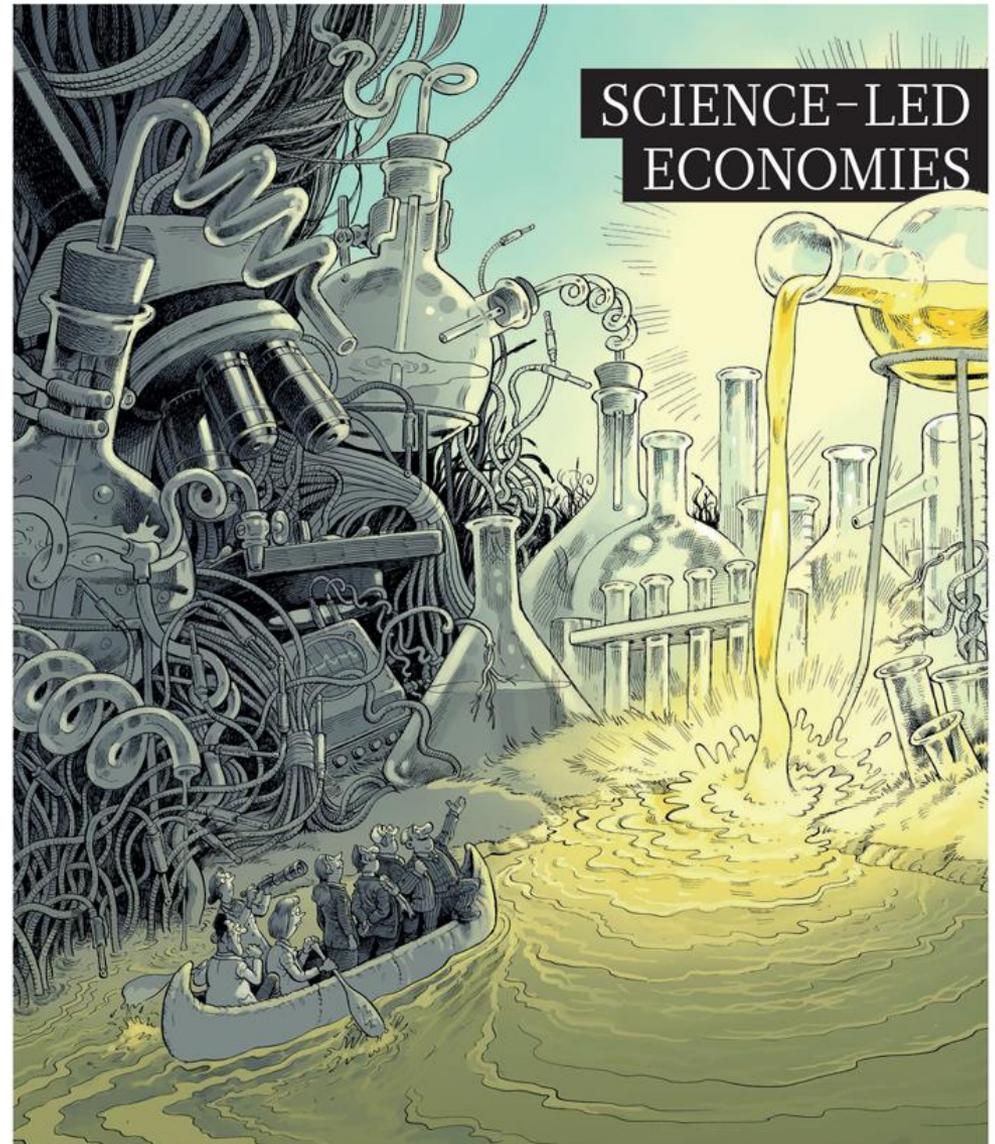
*Knowledge is the  
source of wealth.  
Applied to tasks we  
already know, it  
becomes  
productivity.  
Applied to tasks that  
are new it becomes  
innovation.*



Peter Drucker

*Management challenges of the XXIst Century-1999*

# Research drives prosperity



How research drives prosperity



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## Food production that is

- Effective
- Sustainable
- Environmentally friendly

## The common denominator

- Precision agriculture
- and its teaching





# The consortium

Technical University  
Berlin, Germany

Tallinn University of  
Technology, Estonia

EXOLAUNCH, Berlin  
Germany

Czech University of  
Life Sciences, Prague

The Agricultural  
University Plovdiv  
Bulgaria

Ecole Nationale Supérieure d'Agronomie  
Djillali Liabes University of Sidi bel Abbès  
Université d'Oran 1 Ashmed Ben Bella  
Ministry of Higher Education and Scientific Research

Universite de Mostaganem  
Universite de Tiaret  
Algeria

# CUPAGIS oversimplified: The idea



Implementation of new perspective methods and techniques

- GIS technologies
- Remote sensing technologies

via university teaching

New **CU**rricula in **P**recision **A**griculture using **GIS** technologies and sensing data -- CUPAGIS



# The EU partners



- Provide their competence in the use of GIS and remote sensing technologies
- Mostly (but not only) applied to precision agriculture
- Organise lectures and training sessions
- Purchase the necessary equipment
- Collect and prepares reports
- ...



# The Algerian partners



- Develop new curricula that focus on precision agriculture
- Organise teaching of these curricula
- Spread the competence also outside of the academic/higher education sector
- Make this competence sustainable
  - The PAGIS competence centres
- ...



# The European Commission

## Technically: Education, Audiovisual and Culture Executive Agency



- **Finances the activities**
  - This is why some operations may seem bureaucratic
  - Monitors the entire process
    - Does not interfere in terms of content
    - Keeps track on progress & reporting
    - ...



Experience is not what happens to a man;  
it is what a man does with what happens to him.  
(Aldous Huxley)

See more:  
[www.cupagis.eu](http://www.cupagis.eu)

