



Prof. Dr. Georg Teutsch

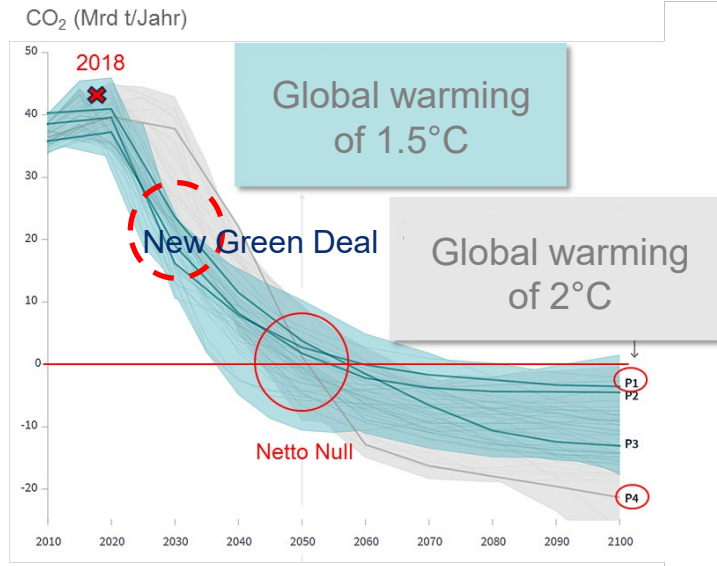
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Climate Action = Mitigation & Adaptation

2018, 2019 were +2,1 degree years in Central Europe !

IPCC: Projected CO₂ emissions



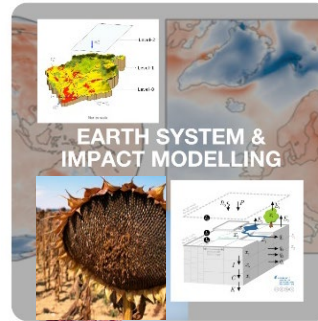
MITIGATION



CLIMATE ACTION

ADAPTATION

We need detailed and reliable information of the Earth's status, i.e. both, 'real-time' sensing and long-term projections



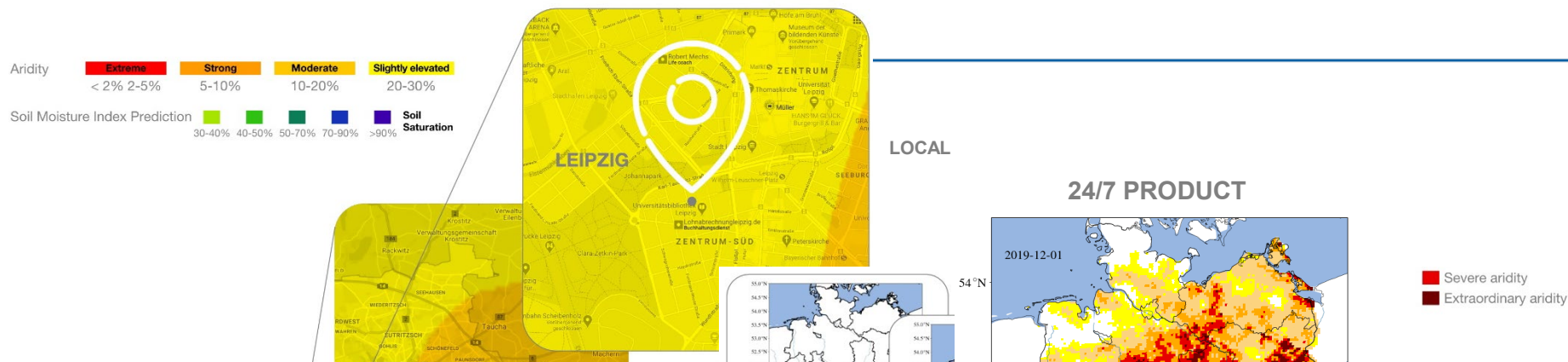
Recent technology breakthroughs make this realistically feasible !

VISUALISATION & SYNTHESIS

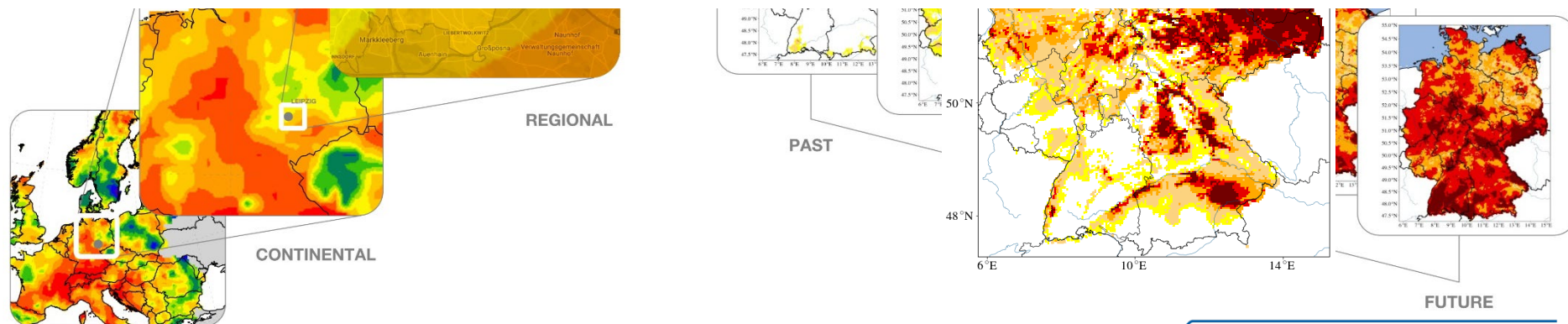


Virtual Decision Theater:
Improved decision making bases through simplified access to
all available information

Climate Action: Seamless Spatial and Temporal Scaling

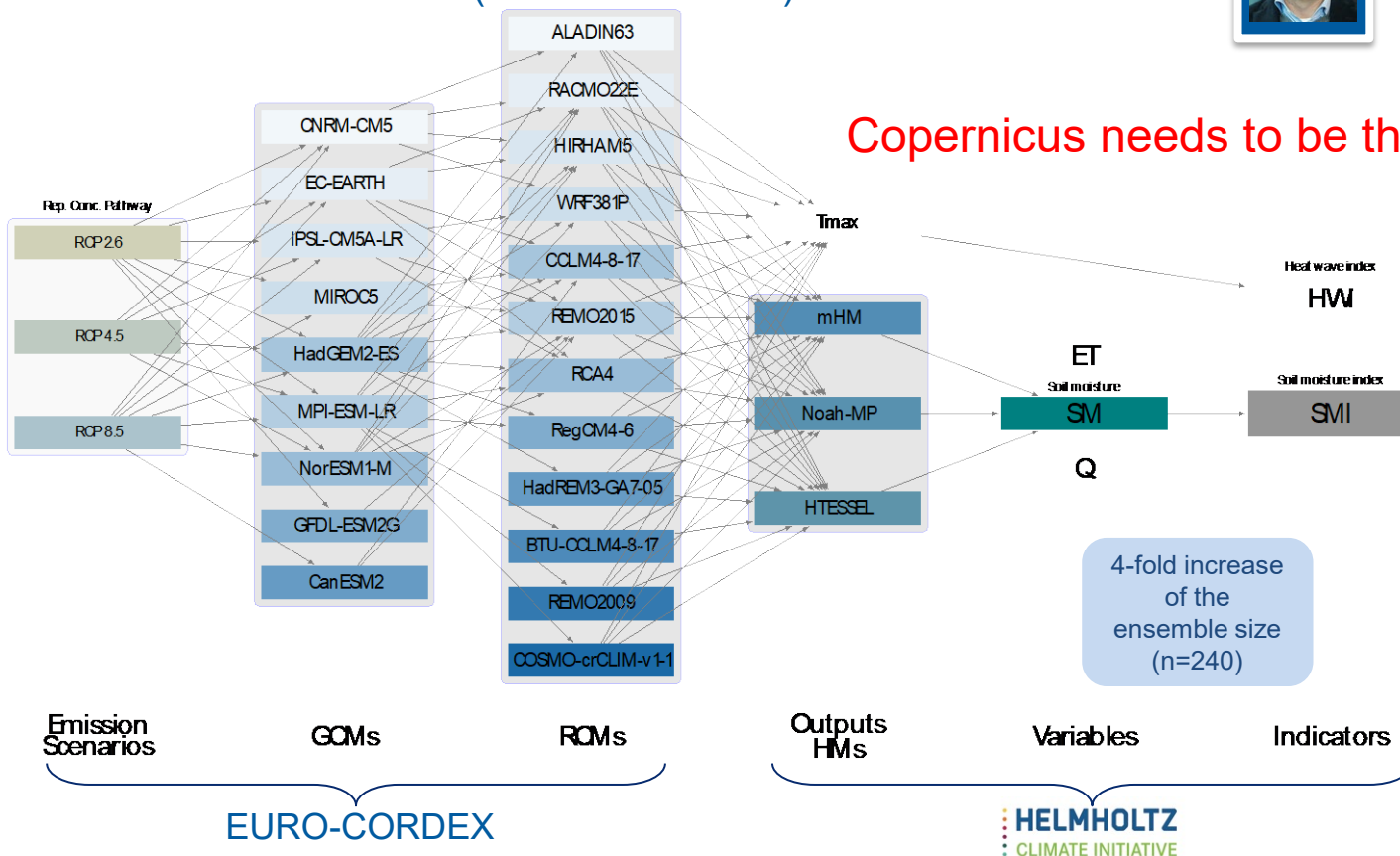
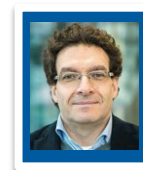


Scientific products of unprecedented resolution and robustness are on the way !



The Modeling Engines are working incl. validation !

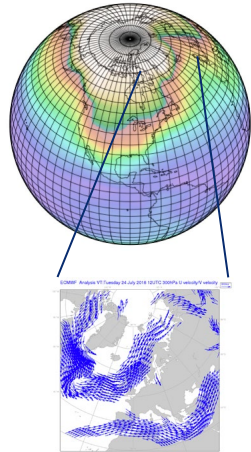
80 ensemble members (EURO-CORDEX)



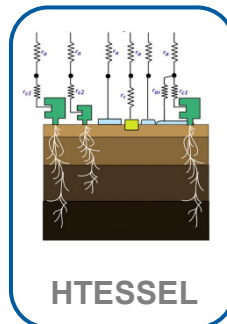
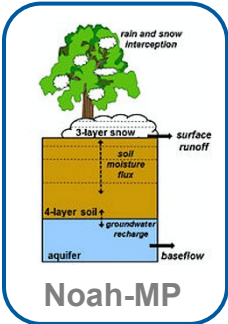
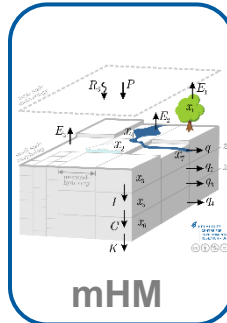
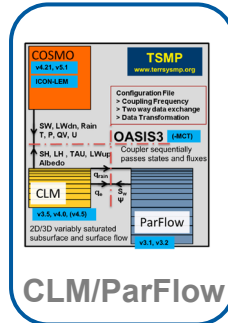
Multiscale Modelling Chain to Generate Super-Ensembles for IMPACT

Weather
extremes

- GCM/RCMs
- HAPPI-DE
- EURO-CORDEX
- ICON-ART
- COSMO

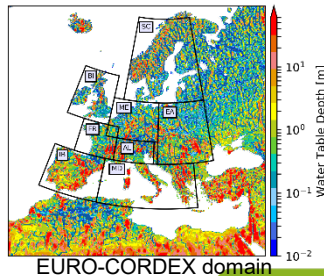
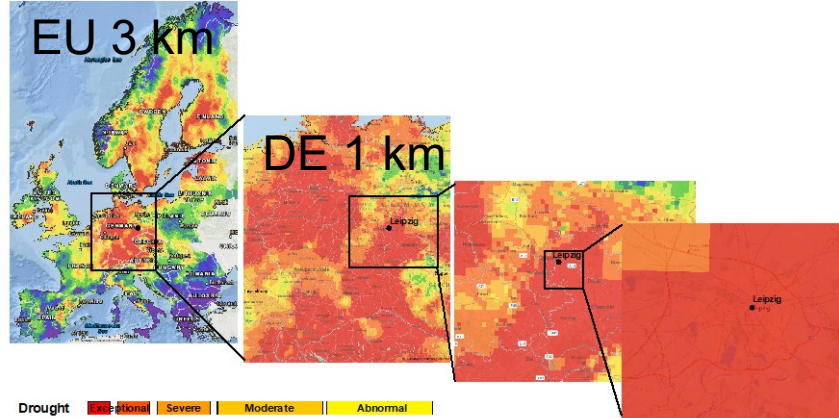


Hydrological system



Multiscale terrestrial environmental variables
and indicators

Impacts



„Pictures of the Future“

Regional/Sectoral Demands for Action

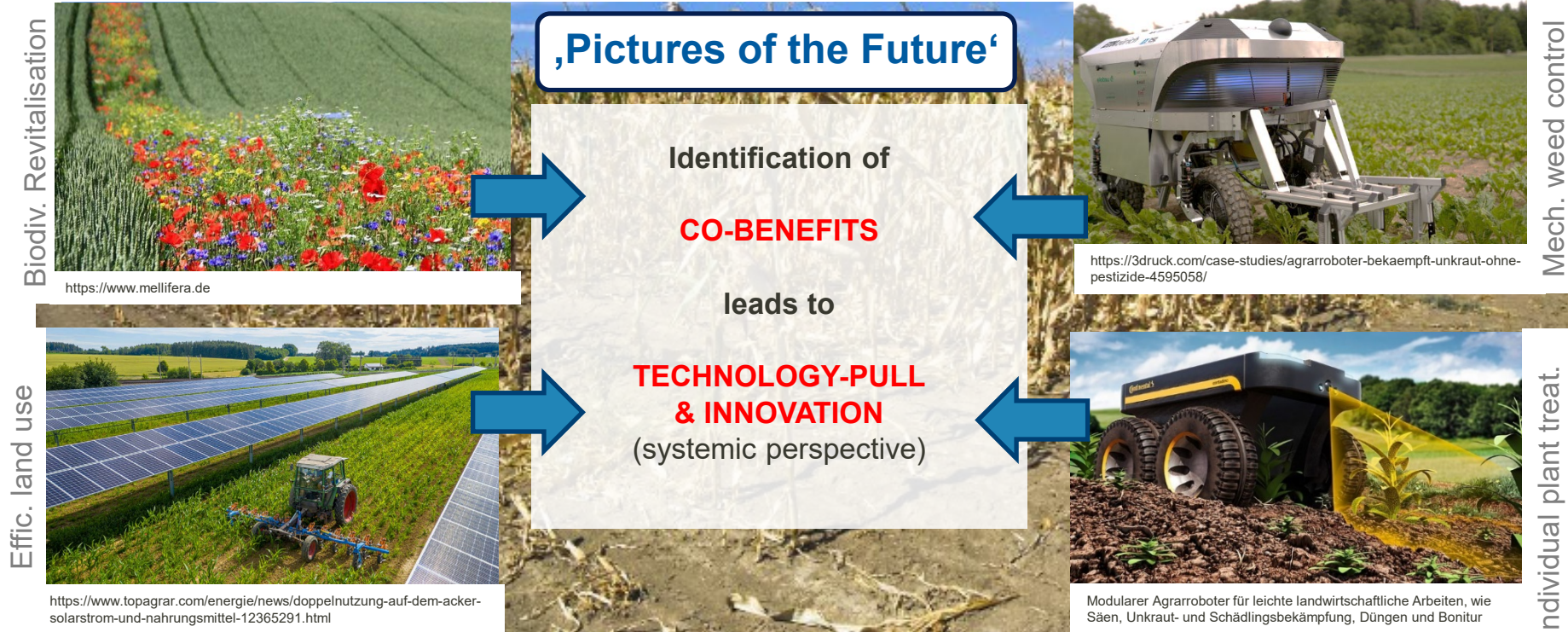
- Changing climatic conditions generate new demands in various sectors both regarding **short term** (management) and **long-term** (investment planning) measures

Detailed 'Pictures of the Future' (impact projections) at local level can be scary but simultaneously offer the chance to design robust measures of action !



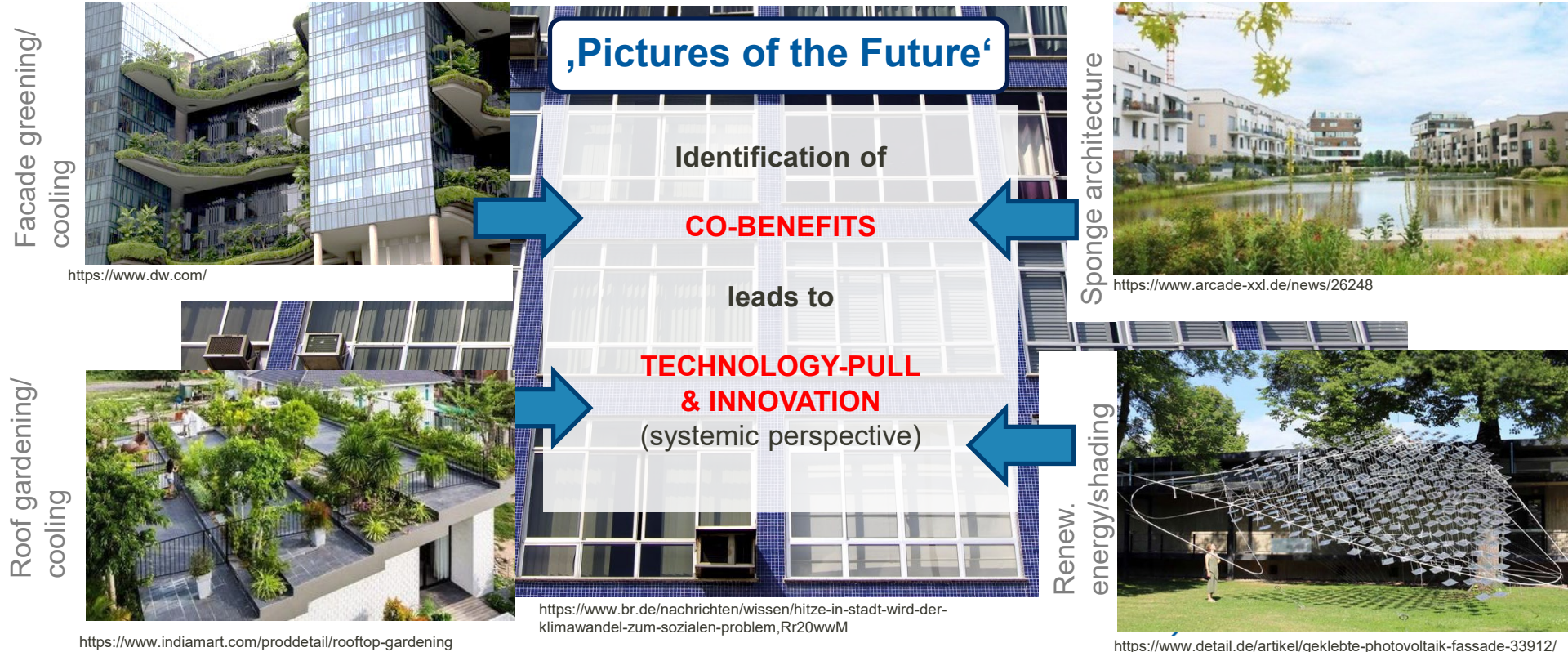
Sustainable Agricultural Landuse

...co-benefits (nature-based and multi-technology) using local projections



Adaptation in Urban Areas

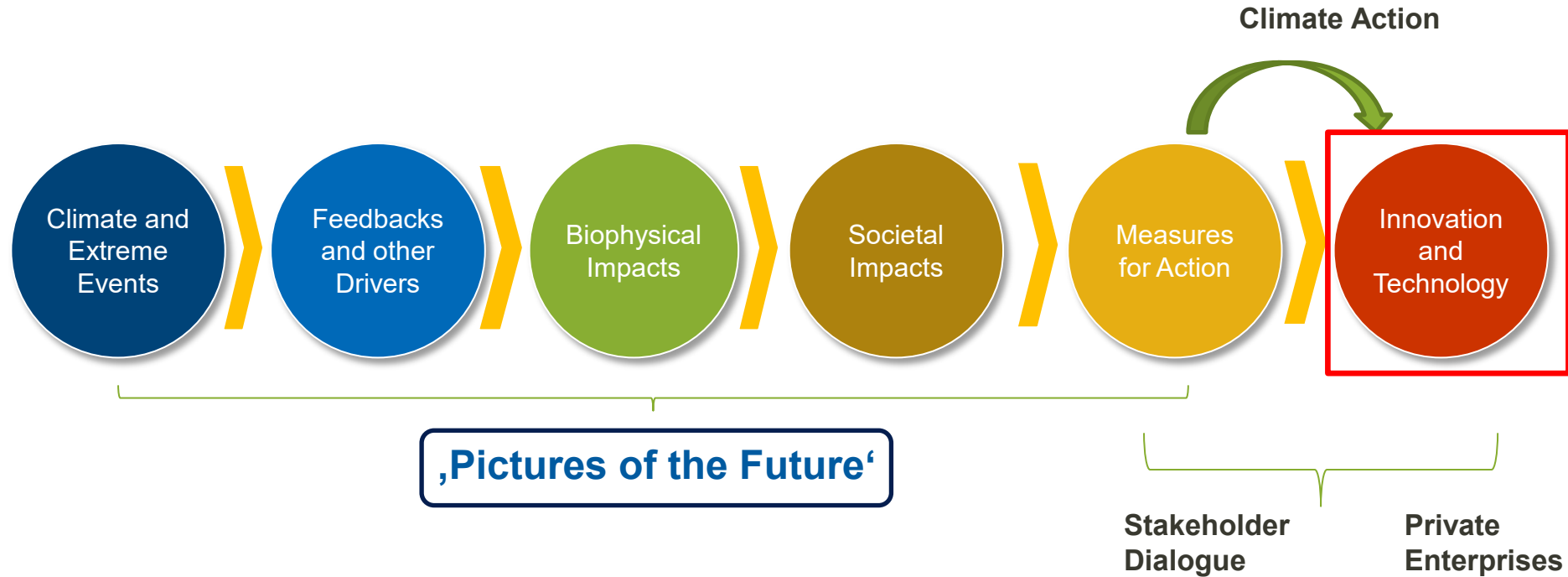
...co-benefits (nature-based and multi-technology) using local projections

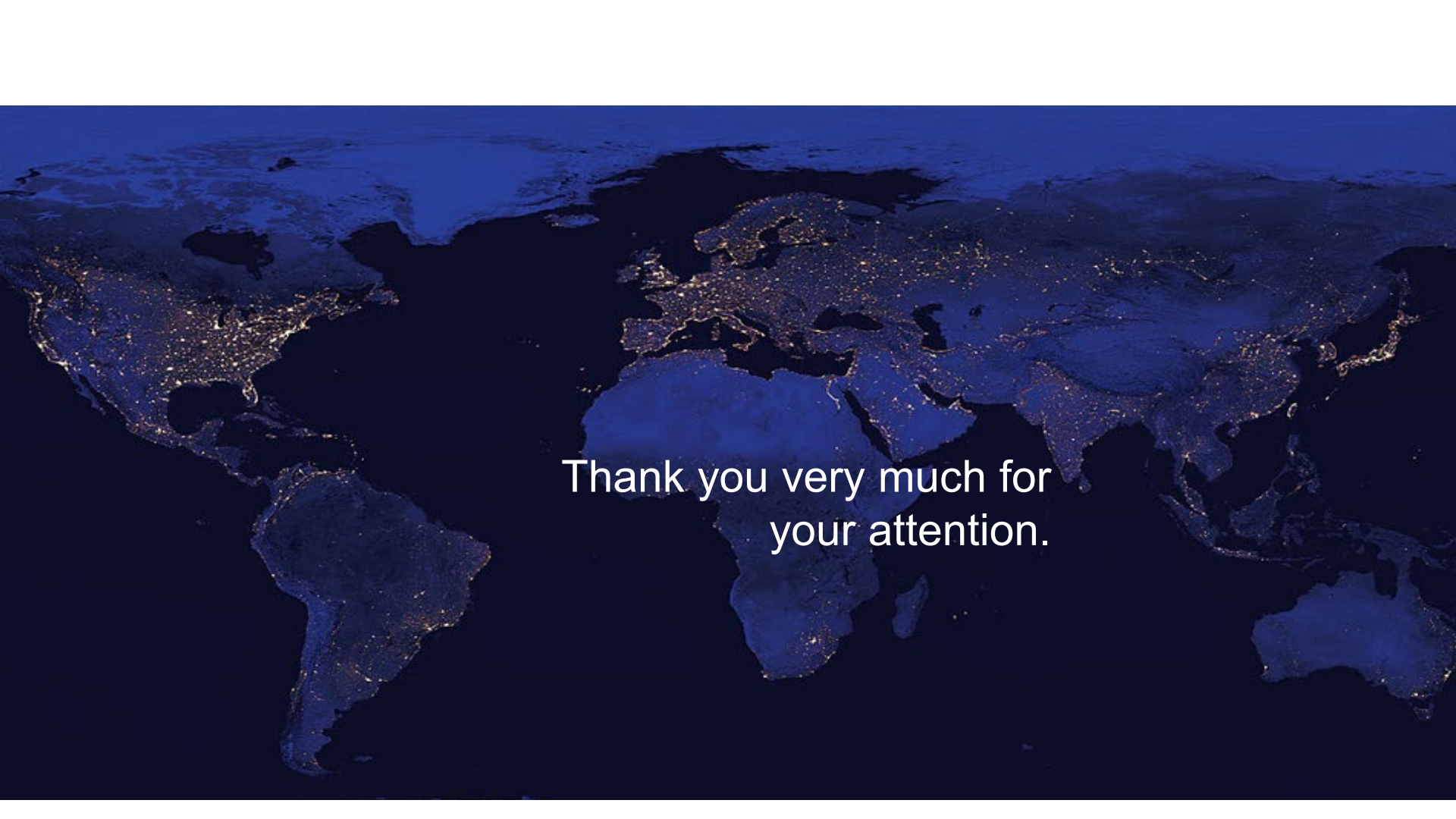


Climate Action Measures are Indispensable

...the earlier we start, the better

EU: adopt (water) policy and regulations to new possibilities offered by science !



A satellite-style image of the Earth at night, showing the continents of North America, South America, Europe, Africa, Asia, and Australia. The landmasses are dark blue, and the oceans are a deeper blue. Numerous small, bright yellow and white dots are scattered across the landmasses, representing city lights and urban areas. The density of lights is highest in North America, Europe, and East Asia.

Thank you very much for
your attention.