76th Advisory Forum meeting
Virtual meeting, 1-2 July 2020

New Approach Methods Activities in MS DENMARK

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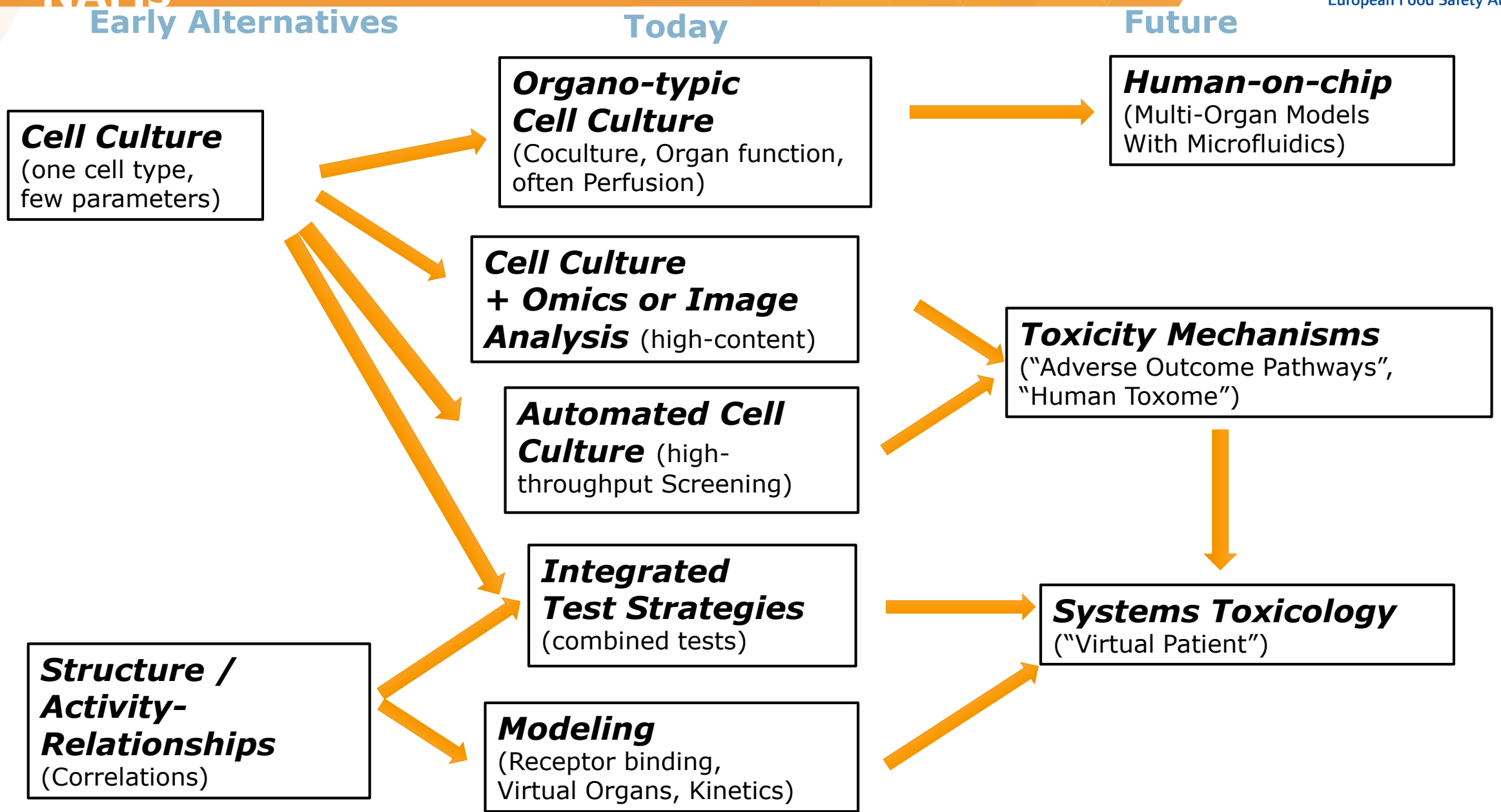
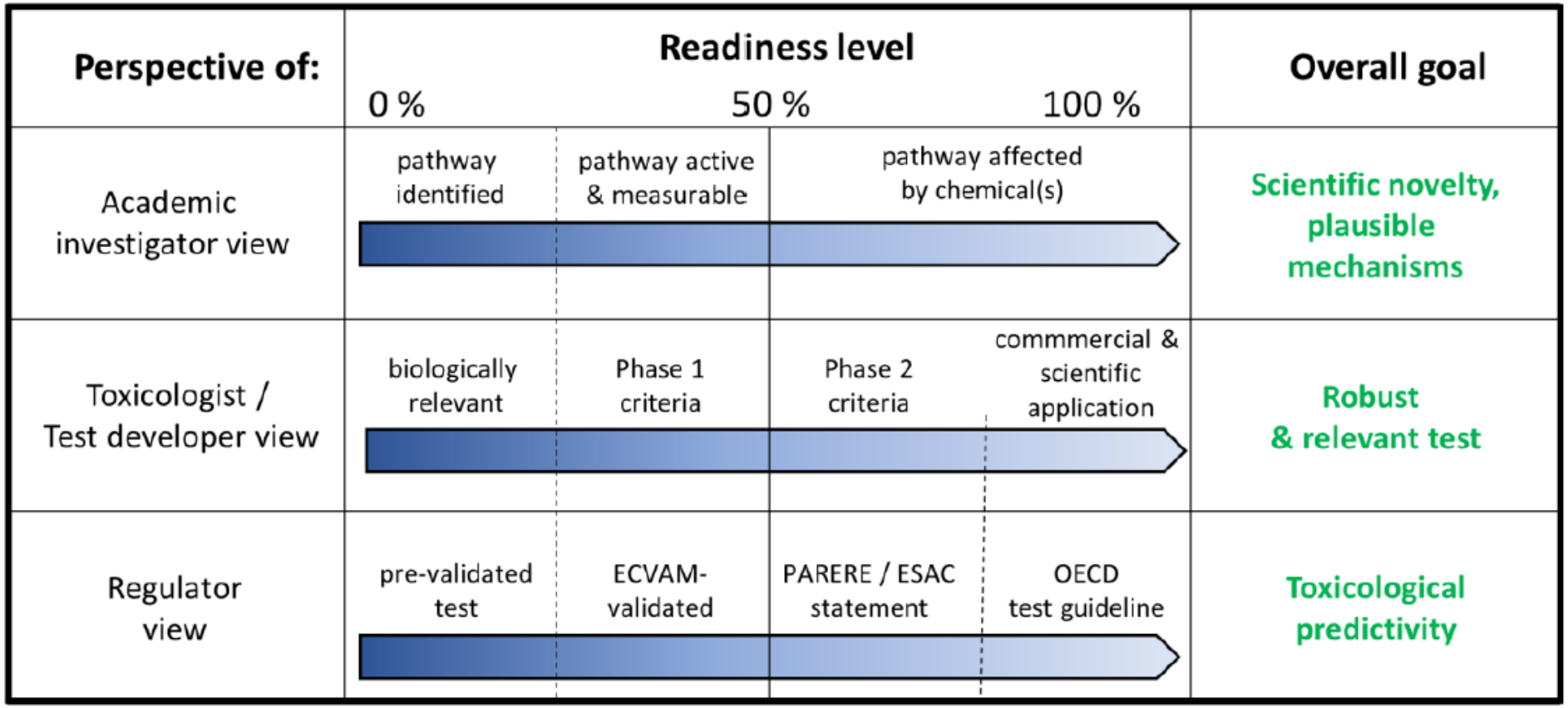
Trusted science for safe food

efsa
European Food Safety Authority

NAMs


Early Alternatives
Today
Future
Cell Culture
(one cell type, few parameters)
Organo-typic Cell Culture
(Coculture, Organ function, often Perfusion)
Human-on-chip
(Multi-Organ Models With Microfluidics)
Cell Culture + Omics or Image Analysis (high-content)
Automated Cell Culture (high-throughput Screening)
Toxicity Mechanisms
("Adverse Outcome Pathways", "Human Toxome")
Integrated Test Strategies
(combined tests)
Systems Toxicology
("Virtual Patient")
Structure / Activity-Relationships
(Correlations)
Modeling
(Receptor binding, Virtual Organs, Kinetics)



Bal-Price et al. ALTEX 2018

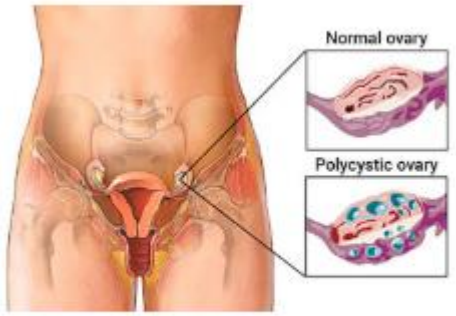
Large difficulty to quantitatively bridge biological scales

easy to draw

Trigger → Molecular initiation → Molecular downstream → Cellular/ (Space, time) → Organ/ (Structure, function) → **INSULT Organism/ (Structure, behaviour)**

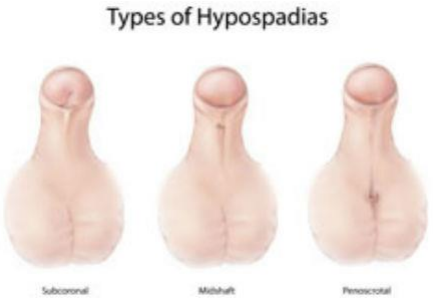
VERY HARD to explain

Polycystic ovary syndrome

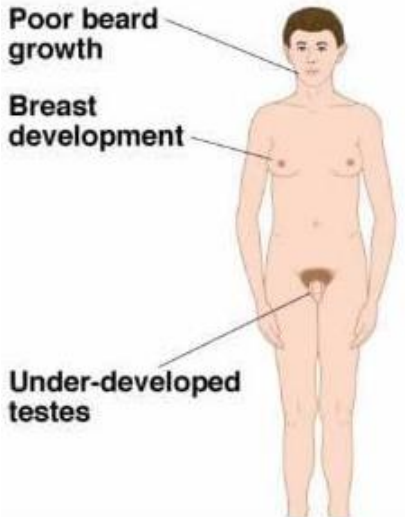


Normal ovary and polycystic ovary

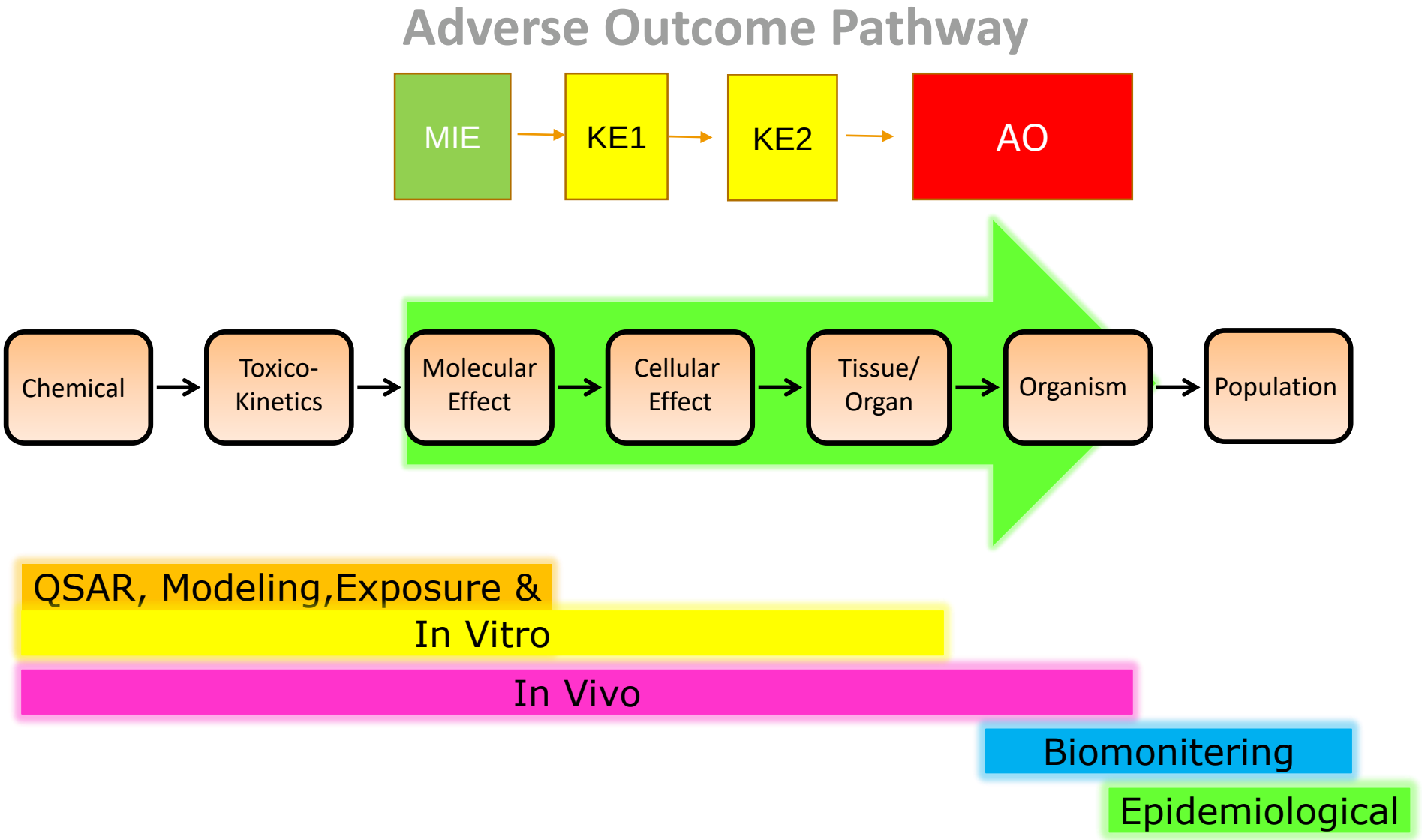
Hypospadia



Androgen insensitivity syndrome



Regulatory Acceptance



Activities DTU

- **Danish QSAR database – used by ECHA**
- **Testing of Endocrine Disruptors – H2020 EURION cluster**
- **Systematic Review**
- **Partnership for the assessment of risks from chemicals (PARC) – Horizon Europe**
- **AOP development and**
- **OECD IATA/Defined Approaches**
- **OECD guidance on Developmental Neurotoxicity**
- **Read-across enhanced by NAMs – H2020-funded EU-ToxRisk**

Thank you