

## PANEL #1

# Theme: Digital Adoption and Societal Challenges

### Moderator:

Prof. Dr. Lasse Berntzen, University of South-Eastern Norway, Norway

### Panelists:

Prof. Dr. Oliver Michler, Technical University Dresden, Germany

Prof. Dr. Sambit Bhattacharya, Fayetteville State University, USA

CEO Scott Gallant, Effective Applications Corporation, USA

- **Digital Adoption and Societal Challenges**
  - **Oliver will talk about transport, environment, jobs**
  - **Sambit will talk about AI**
  - **Scott will talk about best practices for technology adoption**
  - **And I will add some thoughts about technology and society**



Lasse Berntzen  
University of South-  
Eastern Norway

- **Panel Position to “Digital Adoption (1) and Societal Challenges (2)”**

-> e.g., from an expert's perspective for connected and autonomous driving

- **Sequence / Weighting / Balance of (1) and (2)**
- **Technology assessment for “Nature”**
- **Technology assessment for “Individuals”**
- **Technology assessment for “Society” (including AI/DL)**



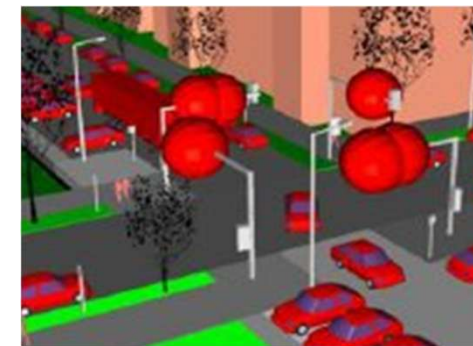
**Prof. Dr.-Ing.  
Oliver Michler**  
TU Dresden,  
Institute of Traffic  
Telematics  
Chair of Transport  
Systems Information  
Technology

### Sequence / Weighting / Balance of (1) and (2)

Robotaxi (Waymo / San Francisco)



Public Transport (Germany)



(1) ↔ (2) Expertise / Laws / Infrastructure  
money

### Technology assessment for “Nature”

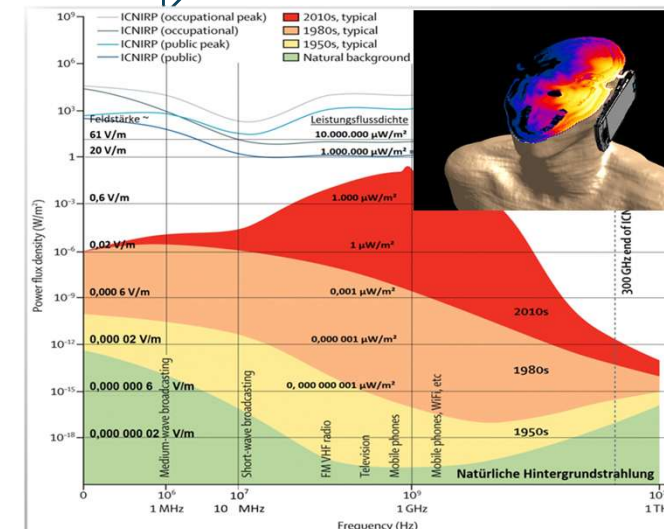


Environmental illnesses ☹️ :

- Smoke particles (car tires, production process, ...)
- Electromog / EMI (Mobil comm., V2X, Radar, ...)

Nature conservation ☺️ :

- Electromobility (battery, heat pump, etc.)
- Multiple use of resources (car sharing, servide, etc.)



### Technology assessment for “Individuals”

Public Transport  
(Germany)



Bus Driver (Real PT / DVB)



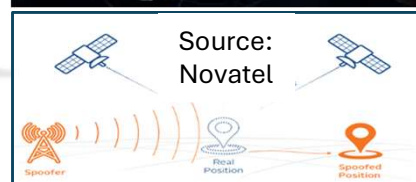
*Professional classification* 😞:

- Job description as a bus driver disappears
- New or different job profiles (computer scientists, mechatronics engineers, teleoperation traffic controllers, etc.)

*Business administration* 😊

- Operating costs decrease (training, shift work, illness, vacation, etc.)
- Unknown maintenance and refinancing costs (battery, etc.)

### Technology assessment for “Society” (including AI/DL ⇒ 30% rule, but discussion in other panel?)



*Critical infrastructure and Resilience* 😞:

- Jamming / Spoofing / (GPS / Galileo, V2X, ...)
- Cybersecurity (systems, networks, programs, certificates, ...)

*Road safety and Economy* 😊

- Human failure factor eliminated (accident statistics, driving experience, etc.)
- Confidence in technology/software increase (intern. experience/robot)

## ■ AI Ethics and Inclusion

- Mitigating Algorithmic Bias
- AI Literacy to Bridge the “AI Divide”
- Workforce Transition and Education
- Global Governance and Ethical Frameworks
- Inclusivity in AI Innovation
- AI Safety & Reliability
- AI Alignment with Human Values
- Governance of Frontier AI Models
- Long-Term Societal Risks of Advanced AI



Sambit  
Bhattacharya  
Fayetteville State  
University, USA

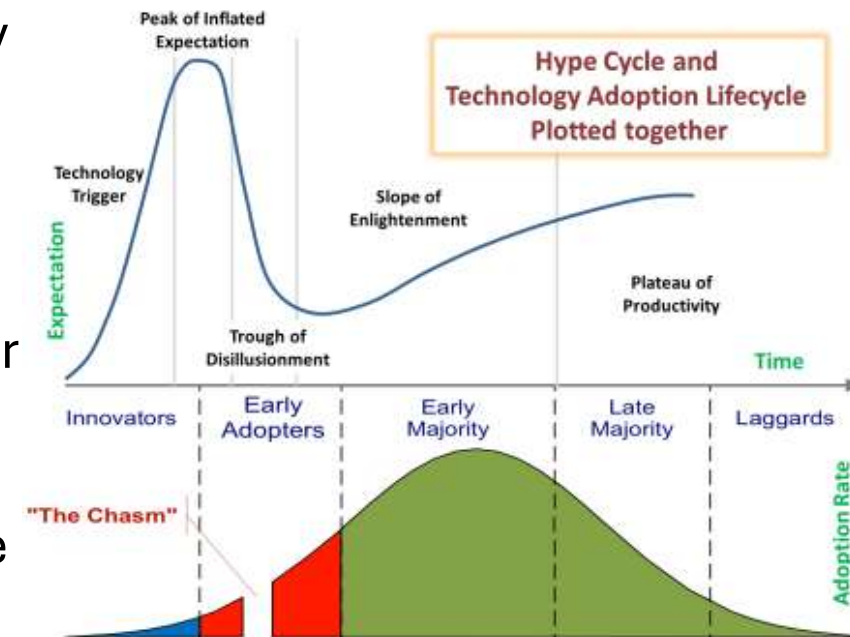


## ■ Digital Adoption and Societal Challenges

- Problems in software projects are rarely purely technical; they almost always stem from business processes, human factors, 'not invented here' attitudes, budget constraints, schedule pressures, and other organizational dynamics.
- It takes time for people to learn about technology advances, figure out how to apply new technology to their domain, and change how they work and contribute to a larger project.
- I support a group on the Exploration of Next Generation Technology Applications to Modeling and Simulation (ENGTAM) where we host informative meetings on the latest technology for simulation professionals. Slow to adopt per previous bullets.
- Overoptimism can hurt more than slow adoption. Making purchasing and programmatic decisions based on conference floor demonstrations has set our community back several times.
- Research and development groups can be invaluable in applying proposed new technology to existing problems in a sandbox before committing.



Scott Gallant



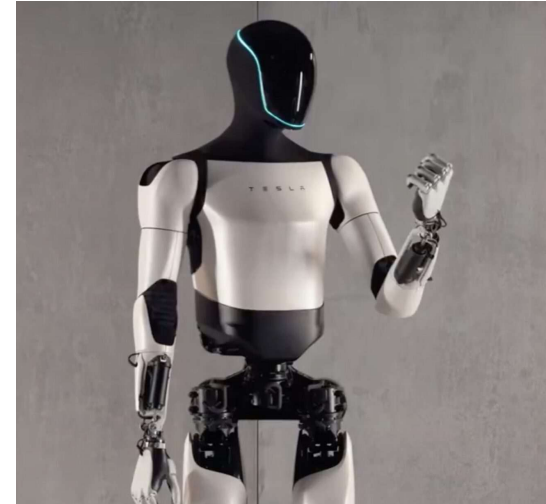
# Best Practices for Technology Adoption from ENG TAM

## Five Steps / Categories of Activities

| Step       | Current State   | Exploration   | Evaluation   | Adoption  | Management   |
|------------|---|---|--|---|--|
| Activities | <ul style="list-style-type: none"> <li>• Organization goals</li> <li>• Organization strategy</li> <li>• Organization capabilities</li> <li>• Organization needs / weakness</li> <li>• Use Cases</li> <li>• Systems Views</li> </ul> | <ul style="list-style-type: none"> <li>• Identify capability areas</li> <li>• Identify technical areas</li> <li>• Plan, staff and schedule exploration activities</li> <li>• On-going monitoring</li> </ul> | <ul style="list-style-type: none"> <li>• Systems engineering for how technology will integrate (technical and process)</li> <li>• Testing (component and system)</li> <li>• Pricing (full life cycle)</li> <li>• Scheduling</li> </ul> | <ul style="list-style-type: none"> <li>• Backup Existing Solutions / Data</li> <li>• Partial / Full Replacement Strategy</li> <li>• Training</li> <li>• Installation</li> <li>• Integration</li> <li>• Data Migration</li> <li>• Process Adjustments</li> </ul> | <ul style="list-style-type: none"> <li>• Maintenance</li> <li>• Upgrades</li> <li>• Process Refinement</li> <li>• Integration Adjustments</li> </ul> |

## ■ A Two-Edged Sword

- Impact on human life
- Robotics and AI will be the next big things
- But what will happen to traditional skills, and how will this impact preparedness?
- The example of a “map case”, reading skills are declining, variety of psychological problems



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