Theme

Society Benefits from Digital Systems and Smart Services

InfoSys 2026 & InfoWare 2026

Moderator

Prof. Dr. Dirk Labudde, Hochschule Mittweida, Germany

Panelists

Dr. Christopher Bayliss, University of Portsmouth, UK

Dr. Ing. Camilo Velázquez-Rodríguez, Flanders Make, Belgium

Tech. Lead Nieves Salor Moral, Starion Group, Spain

Prof. Dr. Frank Heckel, Hochschule Anhalt - University of Applied Sciences, Germany

Sr. Lect. Dr. Amit Resh, Shenkar College of Engineering, Design and Art, Israel

🇬🇧 **Dr. Christopher Bayliss**
University of Portsmouth, UK

🇮🇱 **Sr. Lect. Dr. Amit Resh**
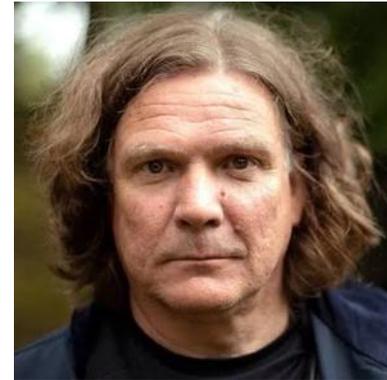Shenkar College of Engineering, Design and Art, Israel

🇧🇪 **Dr. Ing. Camilo Velázquez-Rodríguez**
Flanders Make, Belgium

🇪🇸 **Tech. Lead Nieves Salor Moral**
Starion Group, Spain

🇩🇪 **Prof. Dr. Frank Heckel**
Hochschule Anhalt - University of Applied Sciences, Germany

Terms

- **Society Benefit:**

The positive impact on the public good, quality of life, or economic and social development resulting from policies, technologies, or services.

- **Digital Systems:**

Technical systems that electronically collect, process, store, and transmit information using software, hardware, and network infrastructures.
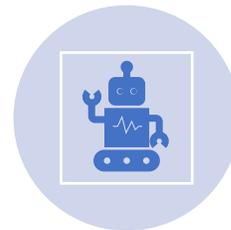
- **Smart Services:**

Data-driven digital services that use connectivity, sensors, and artificial intelligence to deliver automated, adaptive, or personalized solutions.
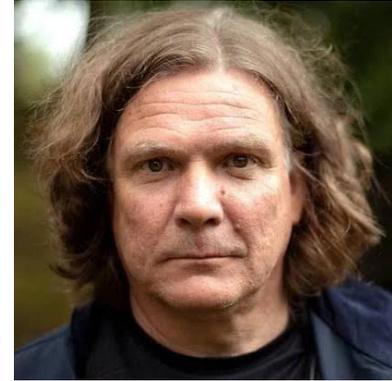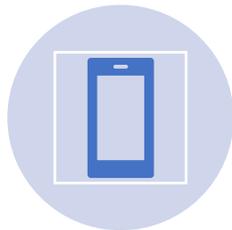
Empirical Facts – Efficiency and Economy
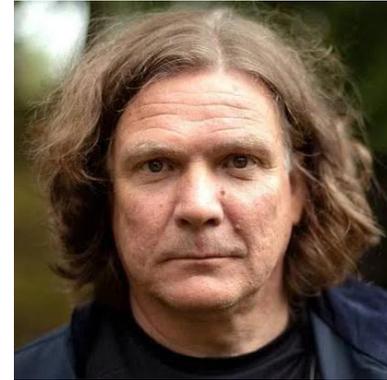
• **Digital administration** reduces processing time and costs

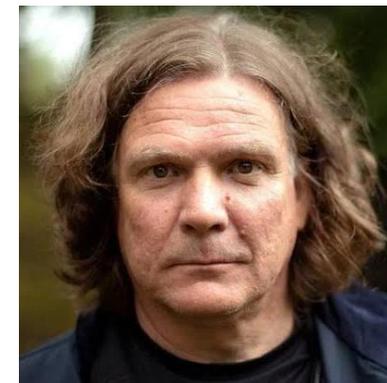• **Automation** increases productivity in industry and services

• **Digital platforms** create new markets and business models

• **E-government** improves transparency and accessibility

Personal Statement (DL)

Panelist Position

- **General position:** Digital inclusion requires simpler solutions and service personalization requires more complex solutions, it's hard to please everyone. **Personalization-inclusivity dilemma**.

- **Specific example:** Personalised journey planning algorithms can generate hundreds of alternative journeys including **cheap, fast, green, safe, pollution free, convenient and accessible** ones, but a one size fits all app for presenting such options can be overwhelming users.

- **Personal experience:** Older relative angry that manned services are being moved online, making things more difficult than they are already. Convenience benefits do not reach everyone.

Dr. Christopher
Bayliss

University of
Portsmouth

UK

Panelist Position

- **How should the personalization-inclusivity dilemma be addressed?**
  - **Do nothing, personalized services are not a human right.**
    - Example: Present hundreds of journey options in response to commuter queries,.
    - Issues: Overall app uptake severely limited due to overwhelmed users.
  - **Basic technology classes, or walk-in tech support groups, for those unfamiliar with emerging service interfaces.**
    - Example: Journey planning app lessons.
    - Issues: Still overwhelmed (learning gap too large.) and who pays?
  - **Design apps with this dilemma as a minimization objective.**
    - Example: Profile users and present a few targeted journey options.
    - Issues: Missed journey opportunities and profiling/data privacy concerns.
  - **Limit the complexity of algorithms used to generate personalized services.**
    - Example: Only present one journey option for each of a range of objectives.
    - Issues: Missed journey opportunities, science is stymied and further societal development limited.

Dr. Christopher Bayliss

University of Portsmouth

UK

Panelist Position

- **Smart services fail society when they become unmaintainable**

  - Maintainability is a public value
    - Systems that cannot be understood, modified, or evolved eventually constrain services and policy.
  - Over-engineering creates silent lock-in
    - Excessive model and system complexity shifts control away from institutions toward fragile technology.
  - Public systems must be built for change, not novelty
    - Policies, data, and contexts evolve faster than models trained on the past.
  - Resilience depends on simplicity and modularity
    - Systems that are easy to inspect, test, and adapt recover faster from disruption.
  - When systems degrade, humans pay the cost
    - Frontline workers and vulnerable users absorb failures through manual workarounds.

Camilo
Velázquez Rodríguez
Flanders Make
Belgium

- **Technology has to be adapted to the users, not the users to technology**
  - Systems should be designed since origin with all types of stakeholders in mind and be tested and compared in realistic scenarios with real users.
    - It is WRONGLY assumed that everyone:
      - Knows how to use digital tools,
      - Can react/adapt as fast as the changes occur

Eng. Nieves Salor

Starion Group

Spain

- **Technology is a tool, not an end in itself**
  - AI by itself is not useful and can be harmful. AI is a tool to be integrated when needed, not because it is fancy.
  - We are learning in AI engineering when it makes sense to use certain technologies, at what costs and which priority

- **There is a need for safeguards against technology dependency**
  - Depends on the criticality of the system, digital systems should always have their analog countermeasure.

- **Technology should allow <u>everyone</u> to participate in digital space**

  - **Our digital tools and solutions need to be accessible – to people who did not grow up with digital technologies, to old people, to people with impairments, to non-experts,**

  - **And lot of tools rely on visual information and interaction**

  - **Modern technology and solutions become more and more complex, thus widening the gap between people who can and who cannot participate in this space**

  - **Technology such as AI could help bridging gaps, but they are not general solutions – inclusion needs to be considered by design wherever possible**

Prof. Dr. Frank Heckel

Hochschule Anhalt - University of Applied Sciences

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- **Technology should be built around <u>human needs as well as social and economical responsibility</u>**

    - **Instead of maximizing economic profit, technology should be measured by its value to people and its sustainability**

    - **With modern technology, in particular generative AI, we do and build a lot things just because we can (slop) – not because it is helpful or useful – and we spent vast amounts resources on it (money, energy, water, …)**

    - **This happens at an unhealthy pace that even experts are struggling to keep up with and which pollutes our information channels**

Prof. Dr. Frank Heckel

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Panelist Position

- Digital Services for Public Safety vs. Public Privacy

  - Smart digital social services, based on large-scale integration of IoT sensor networks with AI-driven analytics, hold significant potential to enhance public safety through real-time situational awareness, predictive risk detection and strengthen cross-agency coordination

  - At the same time, digital inclusion efforts reduce social vulnerabilities that often underlie crime and public health emergencies, building resilience alongside security

  - However, these same technologies raise serious concerns regarding privacy, surveillance, substantial governance risks and the potential for over-policing

  - The core challenge is to strike a careful balance between leveraging technological innovation for safety while respecting public-privacy, safeguarding civil liberties and building community trust

Dr. Amit Resh
Shenkar College of Engineering
Israel

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- Public Health – Lessons learned from Covid19 Pandemic

    - COVID-19 demonstrated that early detection is critical to limiting infectious spread

    - AI-enabled IoT systems can dramatically improve pandemic preparedness in high-risk indoor spaces by using real-time sensor data and anomaly detection to spot early signs of outbreaks, identify infection-risk conditions through air-quality sensing and detect early cluster patterns before clinical cases appear

    - Improved public health readiness must be balanced with clear privacy safeguards, minimal personal-data collection, strong ethical oversight and transparency to maintain public trust

Dr. Amit Resh
Shenkar College of Engineering
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Q & A

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