

6G SNS

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ETSI 

First Steps: **6G Research & Vision**

Event series #4 (1) - 12 March 2024, 11 CET

**Impact Assessment
and Facilitation Action (IAFA)**

**Replace with new cover slide
for the May Seminar Event**

6G

Role of Data in Sustainability & Standardization



Dr. Muslim Elkotob

Principal Solutions Architect,
Vodafone

Chairman ETSI AFI, VC ETSI TC

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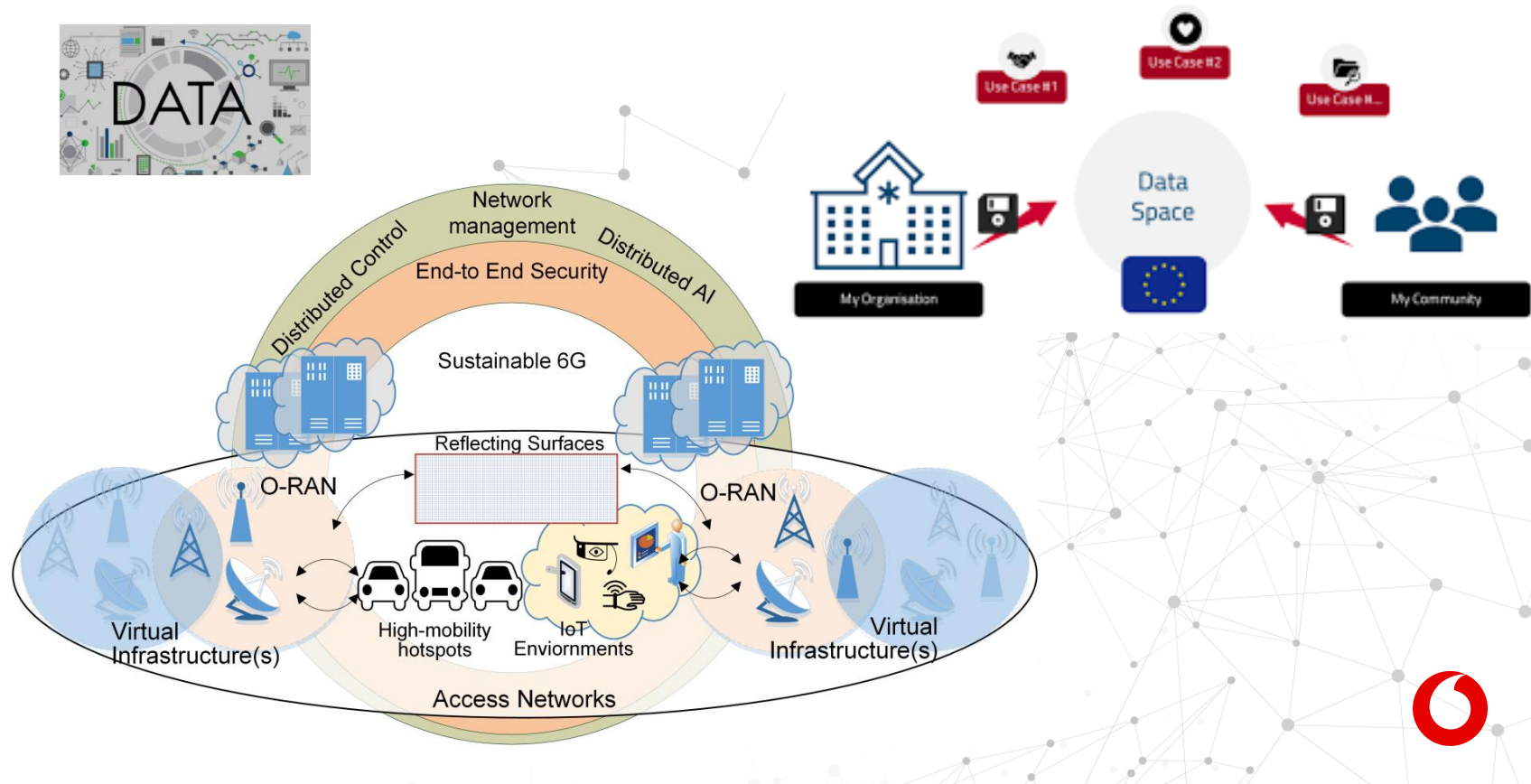
VC ITU-T FG-FT

In our session today

- The power of data & its connection to sustainability
- Data, Sustainability, and Standardization
- Green and Energy Saving Use Cases
- The Role of Data and AI
- Standardization Aspects in Data-driven Green Use Cases
- Conclusion and Outlook



The power of data & its connection to sustainability

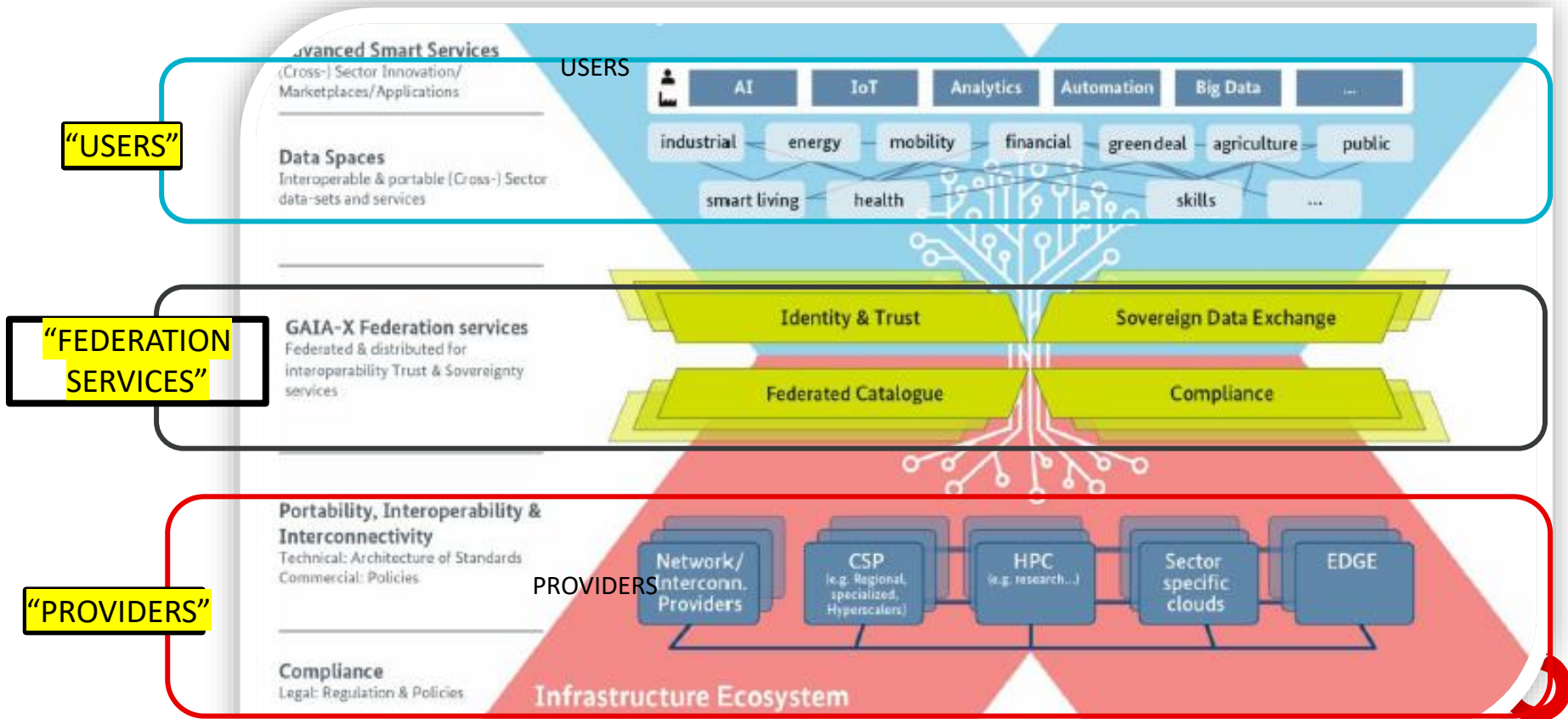


Data, Sustainability, and Standardization

- Data Spaces and Data Sharing Initiatives and Consortia:
 - Gaia-X
 - IDSA
- Data Spaces and Data Sharing Driving SDOs, Projects
 - ETSI, 3GPP, ITU-T, ..
 - TM Forum ODA & Catalyst Projects: Telco Data Sharing, AI-Driven Resource Optimization and Green Use Cases
- Sustainability
 - In Standardization
 - In Conjunction with 5G/6G, Big Data, AI



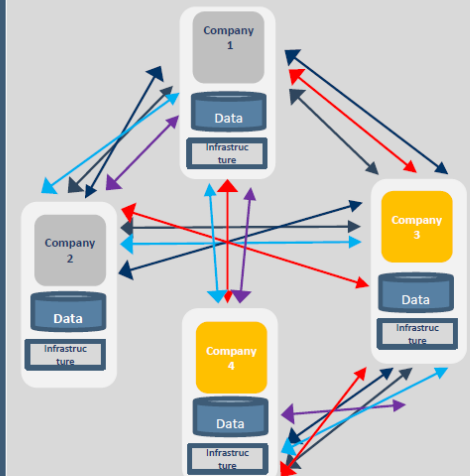
GAIA-X: Federation Services; connects “Users” & “Providers” of services



GAIA-X → Define std. on Compliance, Identity&Trust for Data Spaces

Collaboration today

Creation of multi-party services and data spaces requires high level of individual adaption and agreements

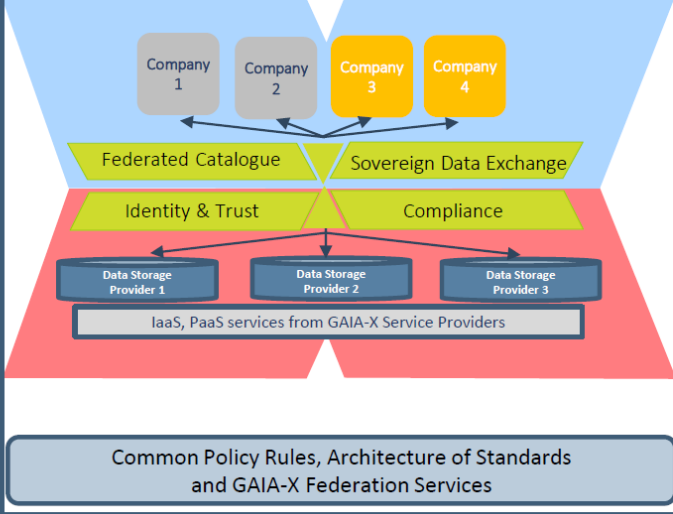


- Legende
- ↔ Visibility of services
 - ↔ Data Usage Controls
 - ↔ Identity
 - ↔ Data Portability
 - ↔ Interoperability

GAIA-X ecosystem



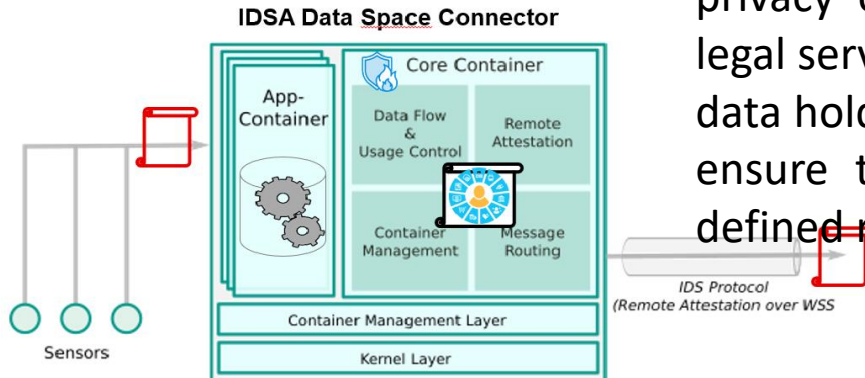
Federation services and common Policy Rules and Architecture of Standards accelerate the creation of advanced smart services



Source: 'GAIA-X Information Seminar', December 2020



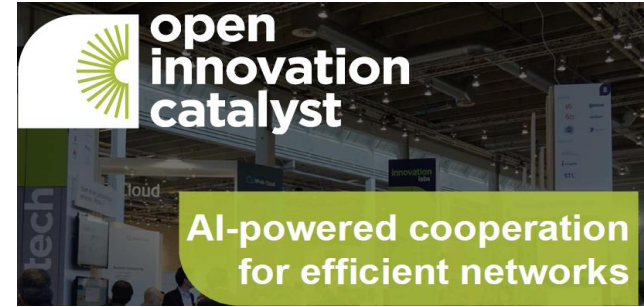
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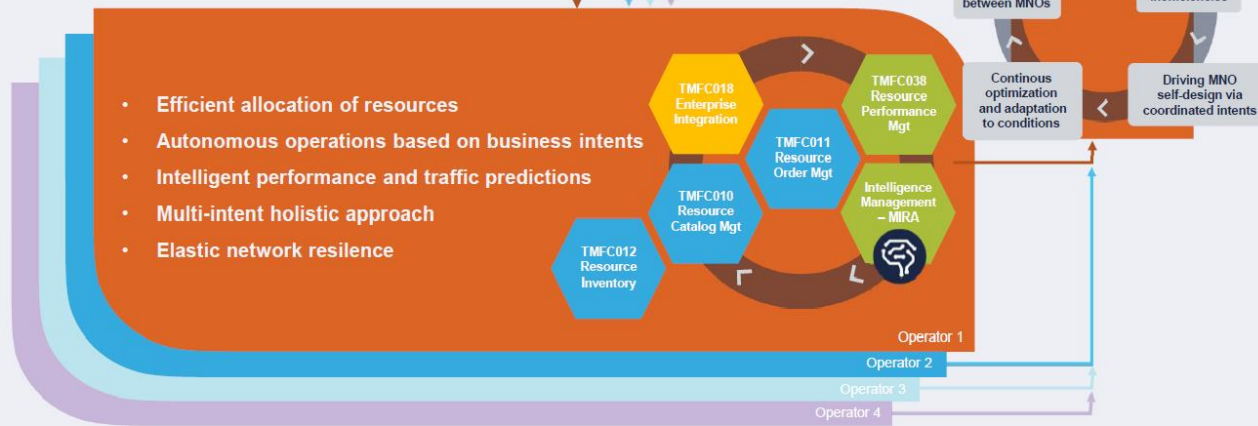
- Importance → **Creating Value (Monetization)**: Data providers currently give their data away or use it as currency in exchange for services and other considerations from large data platforms.
- Importance → **Security&Privacy**: Organizations collect and store data where there is a significant duty to protect the privacy of consumers. Examples: health care, insurance, legal services and more. Data sovereignty means that these data holders can safeguard user data like never before, and ensure that it is used only in accordance with strictly defined rules.



Data Spaces and Data Sharing Driving SDOs, Projects



- ✓ Continuous negotiation and optimization process
- ✓ Dynamic criteria parameter changes
- ✓ Solution that adapts to telecommunications market regulations
- ✓ Multipurpose configuration planning and change process



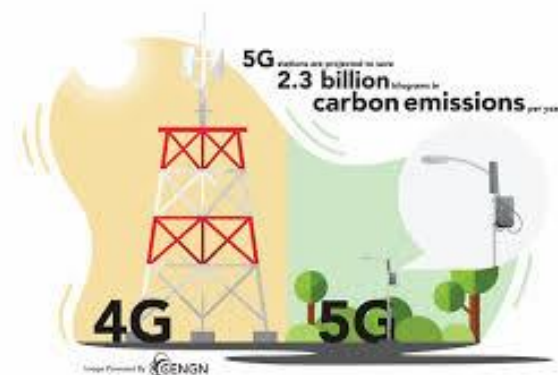
Sustainability Standardization Landscape

Importance of environmental impact & sustainability in telco → developing more energy-efficient technologies and practices

ITU-T SG5 (Environment, Climate Change and Circular Economy): standardization ICTs, the environment, and climate change; energy efficiency and e-waste reduction

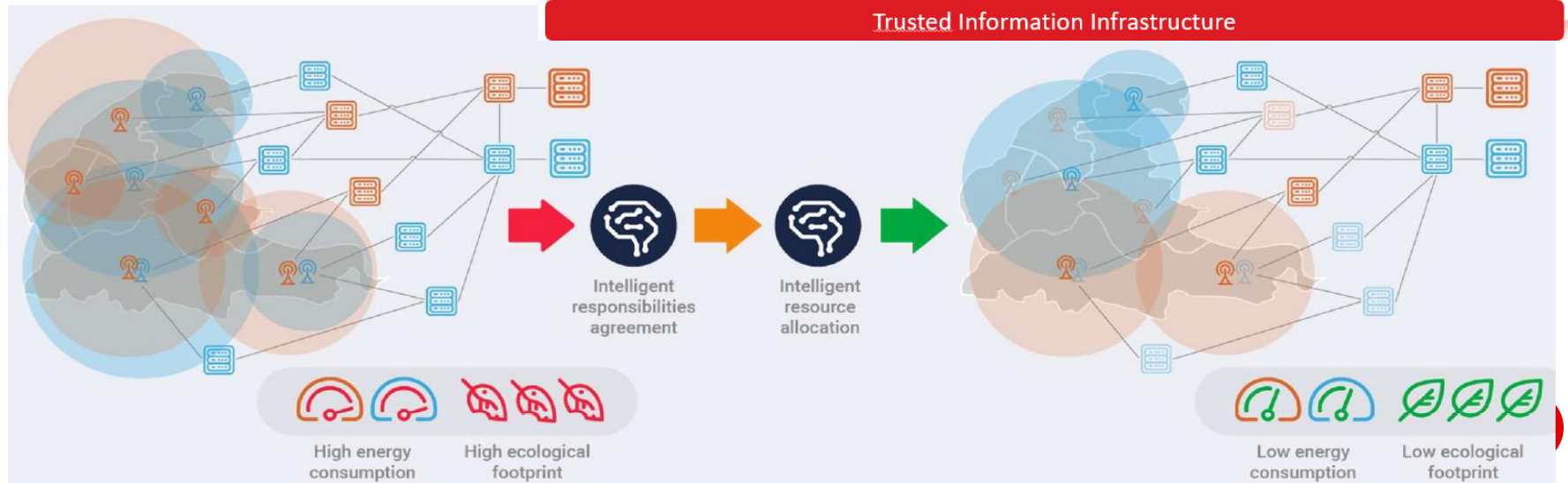
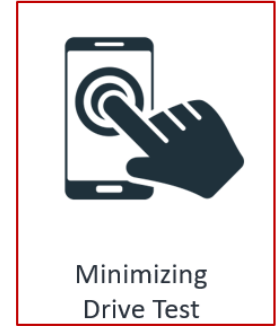
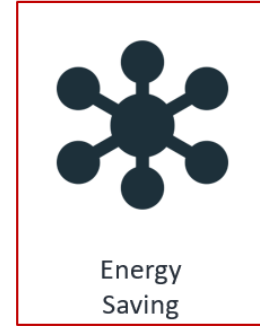
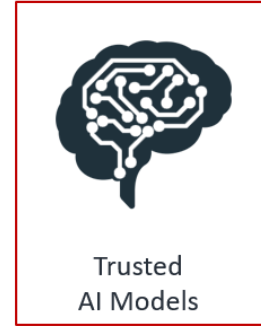
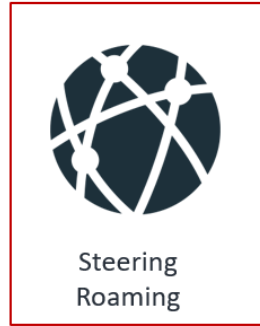
ETSI ISG OEU (Operational energy Efficiency for Users): energy efficiency of ICT equipment and services, E2E: network infrastructure, end-user devices

GSMA Climate Action Taskforce: guidelines to red the carbon footprint of mobile networks and promote sustainability in the telco industry.



Green and Energy Saving Use Cases

- Telco Data Sharing Use Cases
- Green AI-driven Resource Management use case



The Role of Data and AI

- **Data Spaces and Big Data:** Critical for efficient operations and integration of digital twins, enhancing productivity and sustainable resource use across sectors.
- **AI Applications** (Generative and Non-Generative):
 - **Generative AI:** Drives network efficiency by performing multiple functions simultaneously, reducing separate model needs and increasing system efficiency
 - **Non-Generative AI:** Optimizes network operations and energy use, particularly by managing power consumption of major network components like the radio access network
- **Sustainability in 6G Networks:** Incorporates sustainability as a core aspect, focusing on technological advancements with societal impacts, inclusivity, and environmental considerations



Standardization Aspects in Data-driven Green Use Cases

- **Integrated Sensing and Communications (ISAC):** Essential for dual functionality in environmental sensing and communications, spearheaded by standard bodies like 3GPP and ETSI
- **Hexa-X Project:** Focuses on future 6G use cases including immersive smart cities and telepresence, emphasizing sustainability and energy efficiency
- **ITU and 6G Commercial Deployment:** Set for 2030, ensuring new technologies meet the IMT-2030 standards of performance and sustainability.
- **Sustainability Focus:** 6G aims to minimize environmental impact through energy-efficient design and operations, enhancing network services with a focus on low energy consumption



Conclusion & Outlook

- The connection between data spaces and sustainability is multi-fold. AI feeds on data (a.k.a. the new oil), and enables a stronger grip on B5G and 6G use cases with automation, leveraging (via shared data and knowledge), and shaping behavior in a use case.
- In the 6G phase, sustainability and basic AI operations are integrated (by design) into the operational model.
- After a journey looking at the transition from 5G to 6G standardization, an SDO landscape on most megatrends in standards, and the relationship between Data&AI, sustainability, and standards, the way is paved for a new set of series



Thanks for listening

Let's move to the polls and then the Q&A part



Poll 1: Which of the following do you see as a logical/natural continuation of the current webinar series?

- 6G use cases and verticals, architectures, and backing by standards
- The role of AI in underlay, overlay, and data processing in various applications
- Data spaces, data driven services, data sharing and the role of data in 6G
- Another suggestion (may be highlighted in the Q&A part)



Poll 2: Where do you see yourself most active wrt technology evolution?

- Contributing to standards on AI, Data Spaces, Network Architectures
- Building applications on emerging standards in different verticals
- Bridging R&D work and SDO workstreams
- Another suggestion



Poll 3: What do you most miss in current developments in SDOs, seminars, and stakeholder events?

- A coordinated approach and methodology for SDO collaboration
- Collaboration between SDOs and other stakeholders (R&D, industry players, ..)
- A clear big picture of standards and technology trends
- A role-based model (who is doing what) for driving forward technology, business, and standards





Together we can

vodafone
business

Backup

