

# Innovation and Standardisation

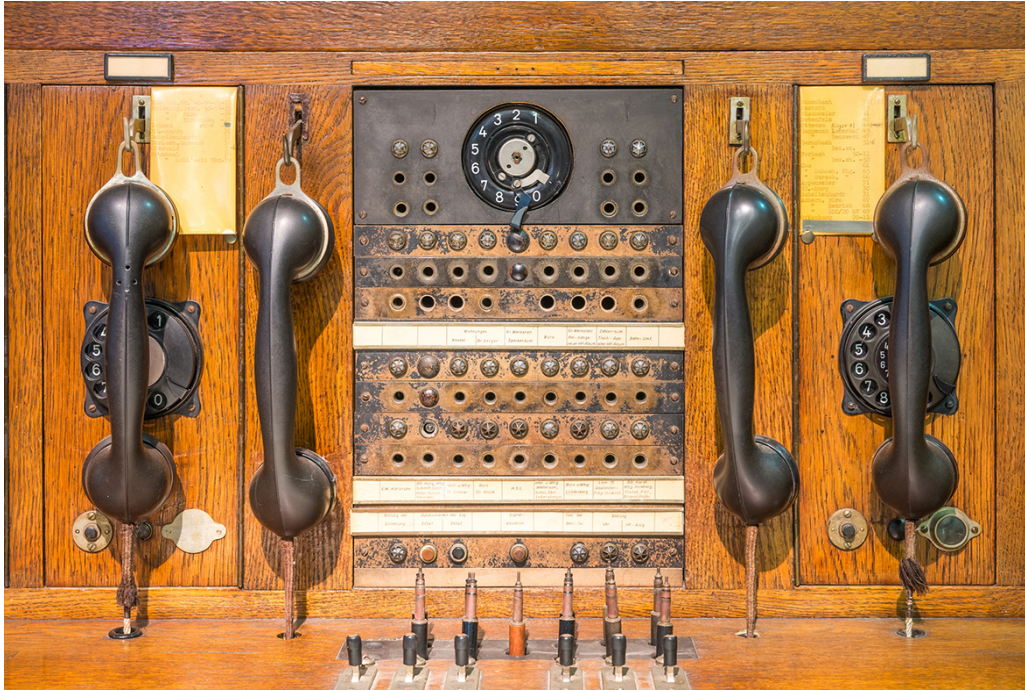
## „Friend or Foe?“

Bosco Novak  
Rohde & Schwarz  
07 October 2015

# „Innovation and Standardisation are best Friends“



# „Innovation stimulates Positive Emotions“



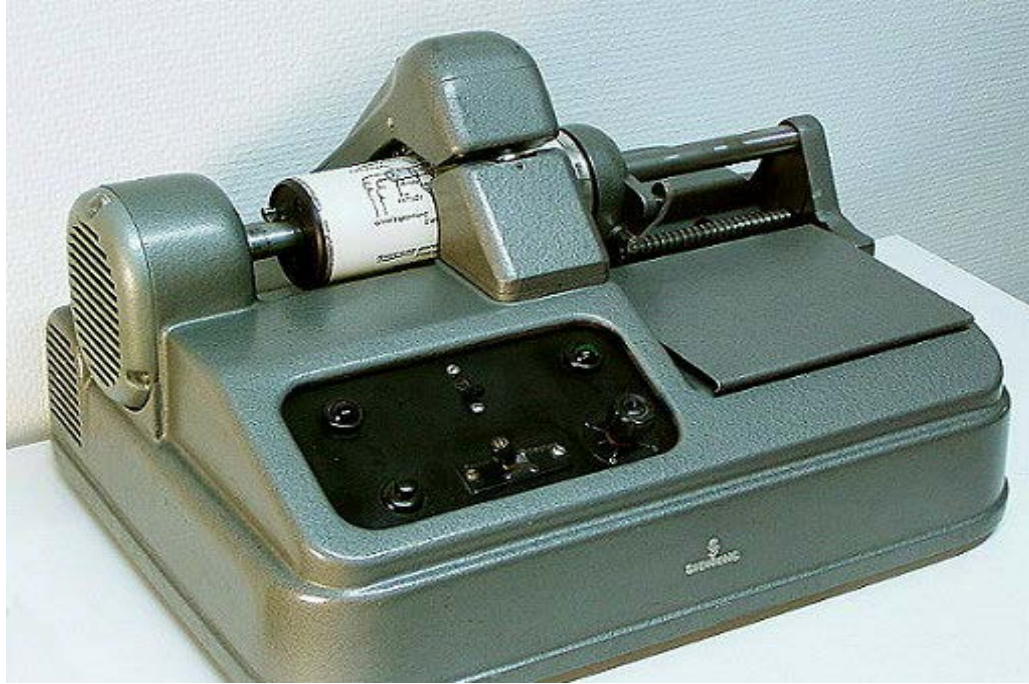
- 70.906 Innovation Books on Amazon
- Forbes List of 100 Most Innovative Companies
- Many Innovation Awards







## „Standardisation appears to be Clinical and Neutral“



- 4.446 Standardisation Books on Amazon
- No Forbes List of 100 Most Standardising Companies
- Very Few Standardisation Awards





„We fulfil the desire for mobility“



- Mobile Communication happened because Innovation and Standardisation are in Sync

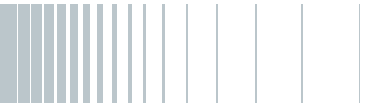




„4G is the presence – yet, we are already in the middle of 5G“



- Breakthrough 5G Innovations
- Creating a joint Technology Framework
- Conformance Test and Measurement









„CISCO did not create the standard, CISCO became the standard!”



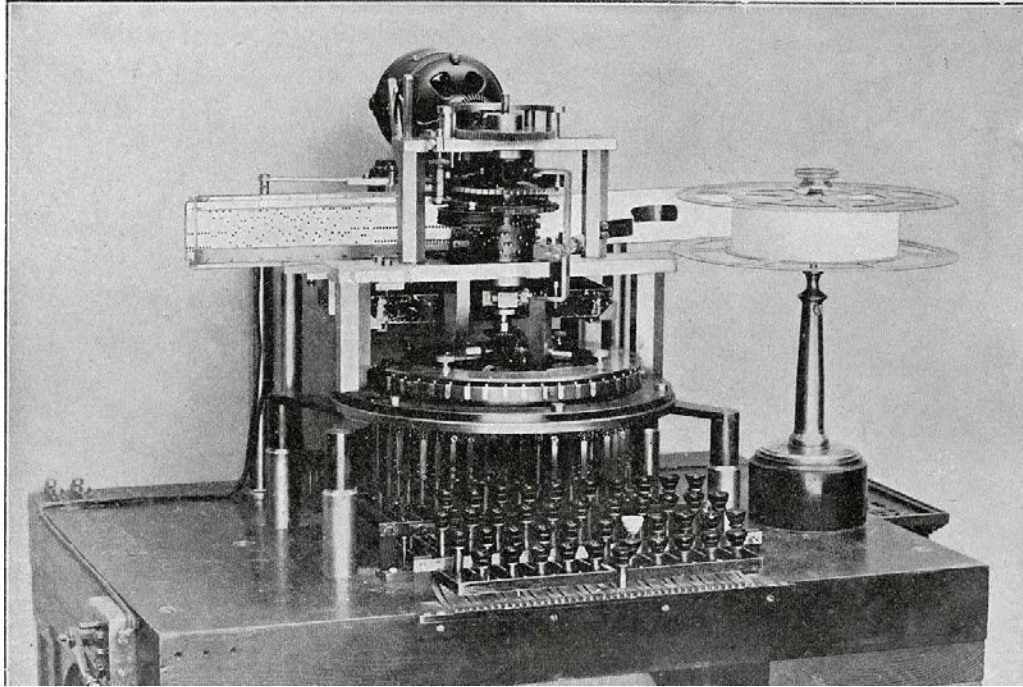
- ATM promised stability, security and quality. IP was cheap and chaos







## „3 fundamental changes are intimately connected!“

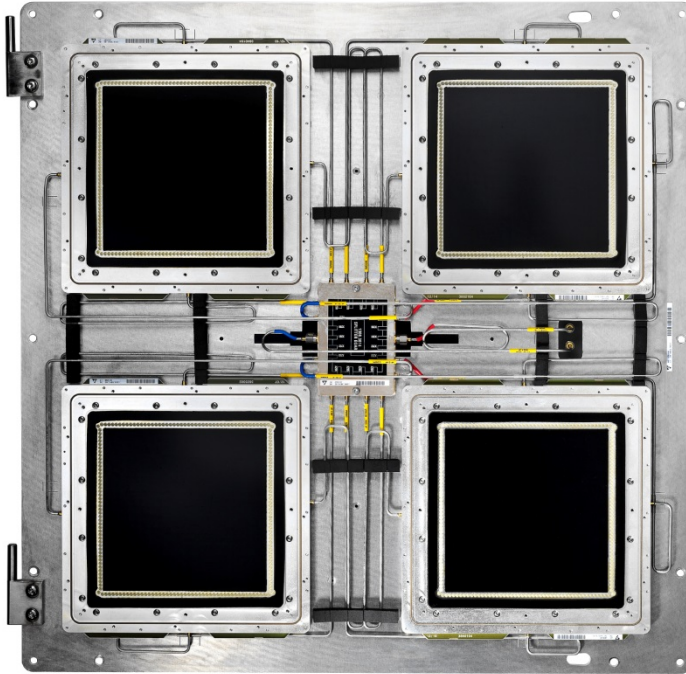


- Technology Innovation
- Shift in Customer requirements
- Disruptions in Eco Systems





# Technology Innovation



- 70-80 GHz Band
- 96 Antennas per panel
- 48 MMICs
- 1 Tbit/s raw data





# Customer requirements shift



- **Protecting** passengers' privacy by applying automatic detection methods
- Increasing needs for **efficient** security checks at airports and critical infrastructures
- **No** excess health risk







# Eco System Disruptions



- Airlines and Airports form coalitions
- Competition between Airports
- Customer Convenience increases in priority





# „Tactical Communication: A Zillion different Innovations in Technology“



- Advances in FPGA
- System-on-a-Chip
- Software architecture
- .....





## „Tactical Communications: Threat Scenarios have changes drastically“



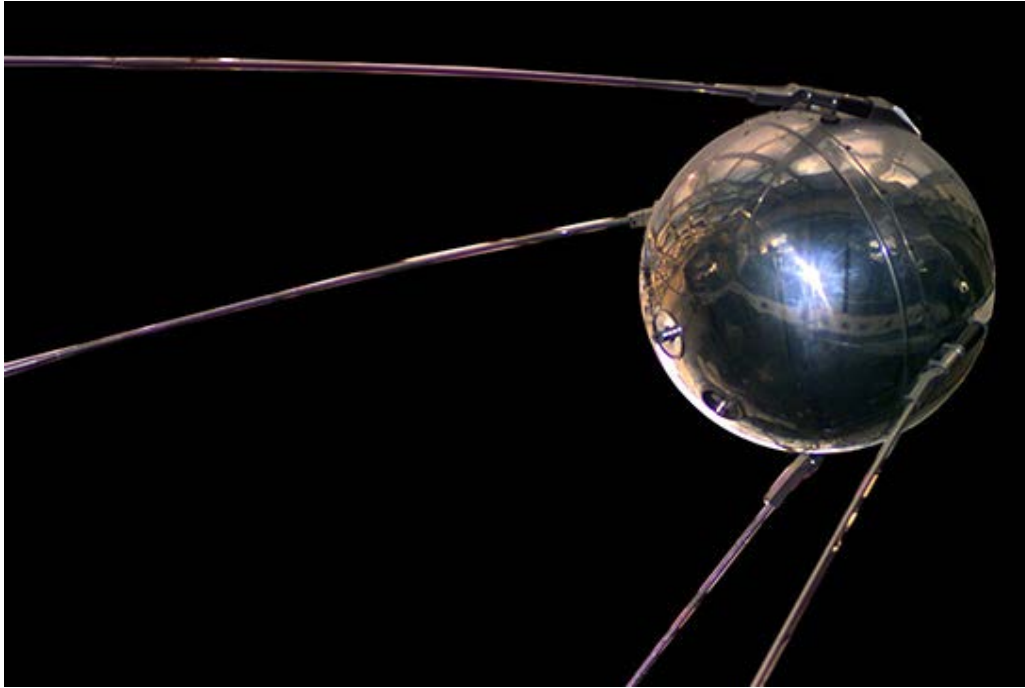
- IS, Syria, Yemen
- Ad-hoc Coalitions
- Unmanned Systems





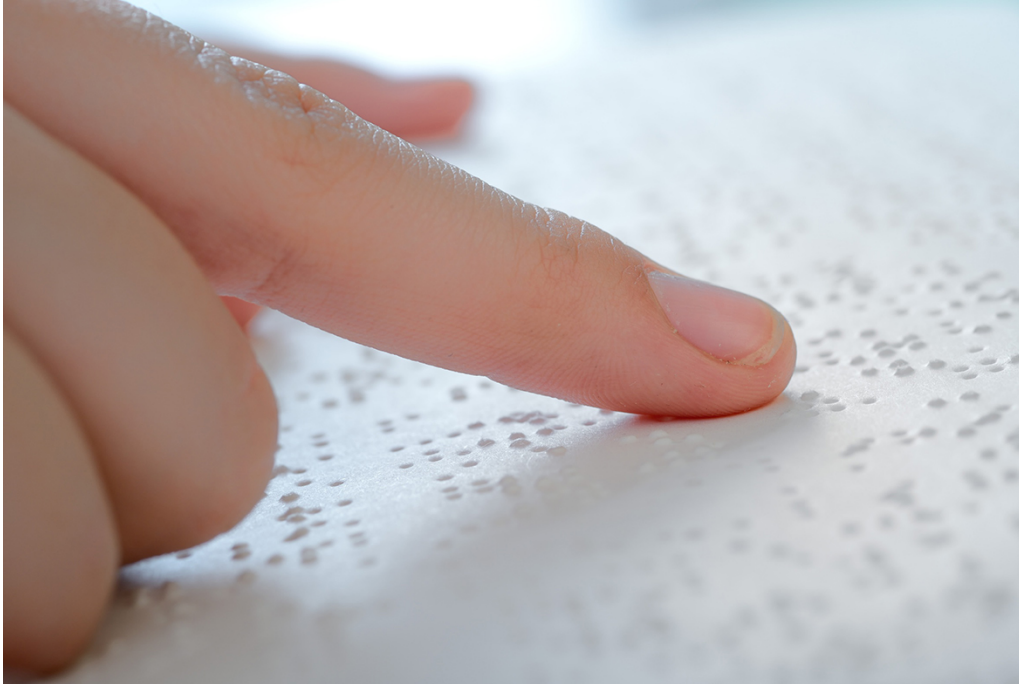


# „Tactical communications: How to create catalytic events?“





# „Are we innovating fast enough?“



- Techniques for Efficient Porting of Waveform Applications
- Network Management of Mobile Ad-hoc Radios
- Increase Communications Time on Battery Charge





# „It is important to choose the right category“



- Innovation without Standardisation
- Standardisation without Innovation
- Innovation and Standardisation

