802 Next Gen Coordination/Brainstorm Workshop
Vertical Applications TAG

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802.24 Vertical Applications TAG

“A vertical market is a market in which vendors offer goods and services specific to an industry, trade, profession, or other group of customers with specialized needs.

“A horizontal market is a market in which a product or service meets a need of a wide range of buyers across different sectors of an economy”. ---Wikipedia

Related to IEEE 802 Local and Metropolitan Area networking standards – Connectivity for Verticals

Horizontal

- Home networks
- Enterprise networks
- Internet Service Providers

Vertical

- Smart City
- Private Field Area Networks
- Private Fiber Networks
- SCADA (water, gas, electric)
- Factory Automation
- Smart Metering
- Rail – positive train control
- Distributed Energy Resources

- TG24.1 Smart Grid Task Group
- TG24.2 IoT Task Group
Connectivity for Verticals: Rate vs Range

AR/VR/XR,
telepresence, remote operation

In Plant IT/OT networks
Industrial Automation
In-vehicle networks

Private Wide Area Networks
SCADA, Sensors, Control,
Monitoring, Voice, Workforce data,
drone video

Body Area
In Plant IoT, Sensors
Environmental Controls, Energy
conservation

Home Area
Transportation, energy production,
drone control

Building Area
IoT Sensors
Smart City

Neighborhood Area
Wide Area

Vertical Application Spaces

Gbps
Mbps
Kbps
bps
Connectivity for Verticals: Rate vs Range

IEEE 802 Wired Standards

- 802.15.3 THz
- 802.15.7 VLC
- 802.15.4 2.4 GHz (Body Area, Home Area, Building Area)
- 802.15.6 BAN
- 802.15k 802.15.16t
- 802.15.4w LPWA
- 802.15.4i, 4z UWB
- 802.22
- 802.15.4 SUN
- 802.15.7 VLC
- 802.15.3 THz

Rate vs Range:
- Gbps
- Mbps
- Kbps
- bps

5G
4G

Unlicensed Spectrum RF Power Limit
Ongoing Activities

- **White Paper Development**
  - Highlighting Vertical Applications that integrate IEEE 802 standards from more than one Working Group
  - Goal is to communicate how the suite of IEEE 802 standards provides solutions for vertical industry connectivity requirements.

- **Vertical Industry Standardization Outreach**
  - Which vertical industries have “standards gaps” appropriate to the scope of IEEE 802?
  - Are representatives of these groups already involved in IEEE 802, or is some form of outreach needed?
  - Make it public that 802.24 is a venue for stakeholders to initiate standardization – through other IEEE conferences and activities.

- **“Success story” – launch of 802.15 TG16t project from outside group of stakeholders**
  - 802.24 provided a forum to develop PAR that was assigned to 802.15 WG approved in November 2019

Get involved in 802.24 to define new networking capabilities