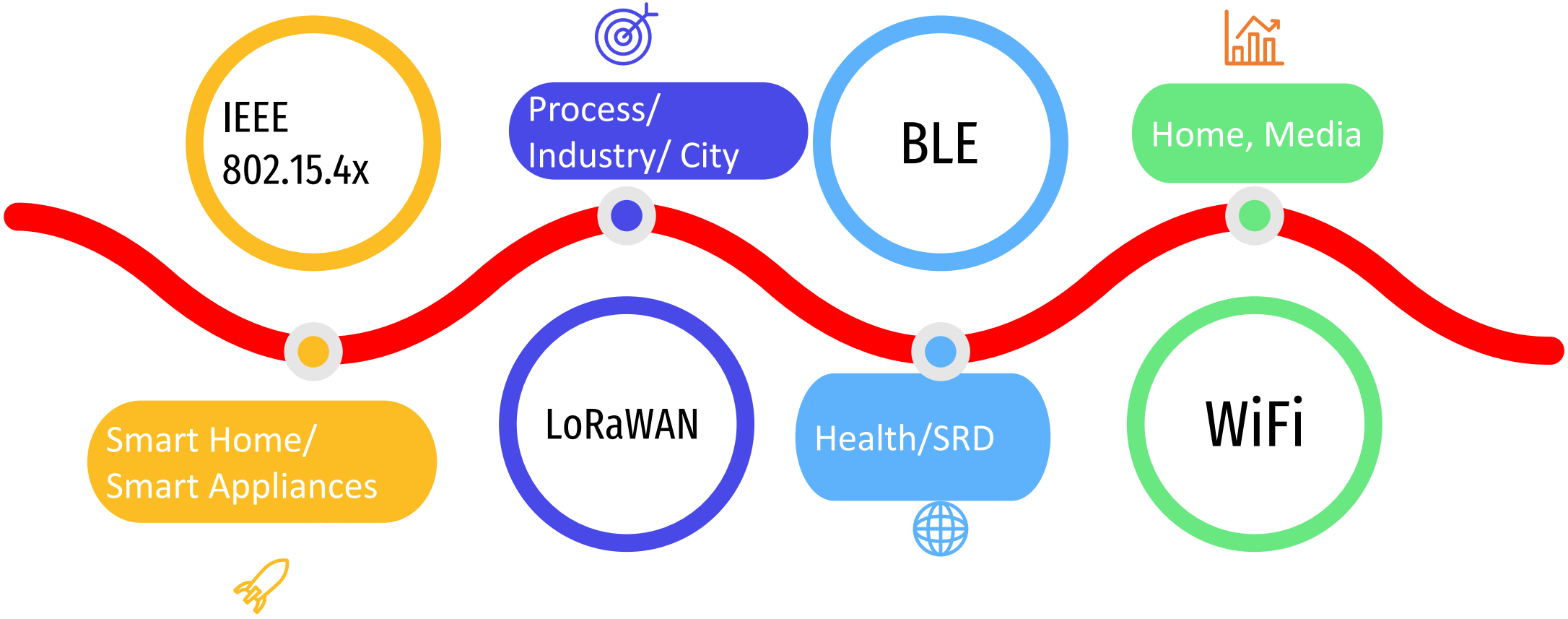

dspworks
Attached to Nothing, Connected to Everything

Various Protocols in our portfolio

User remain oblivious of the underlying protocol if you want – we will bring it to your cloud



Our Domain and its Challenges

We are ODM in home automation space which has

standards based connectivity at its core and

a solution continuity (5 years in some cases owing to RERA)

as an essential requirement for brand continuity

For us it is important to

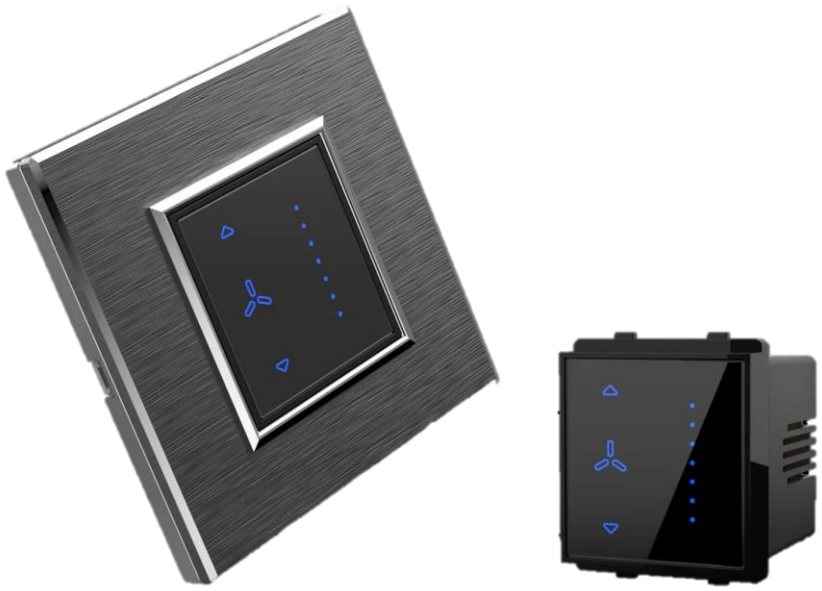
Ensure homogenous deployment irrespective of protocol, range, data-rate, battery life

Maintain continuity of solution over changing technology ecosystem

For customer:

No dependence on vendor/ technology/ distance or field operator skill

IoT based Home Automation



- Different range across various houses
- Different propagation conditions
- 5+ years of maintenance contracts

- Solution has BLE, WiFi, IEEE 802.15.4

- Completely indigenous solution taking SoC and building entire product + cloud + connectivity

- Tens of thousands of standard WPC approved IoT switches across the country

PCAT for Indian Railways

- Sensor Tracker to track various passenger amenities inside a coach
- Compliant with C-DOT CCSP/ oneM2M platform.
- Radios: WiFi, 4G with GPRS Fallback, LoRaWAN
- Made in India Classification: Class 1 (>50% Indian Value Addition)
- Features: Tracking of utility, health and hygiene parameters and reporting in near real time
- Ecosystem: Cloud, Dashboard to trigger action and feedback
- Can also be modified to support Wagons

Gas AMR

- Piped Gas Meter AMR
- Deployed/ Operational in the field
- Completely designed and developed in India
- 10+ years of operating life on AA Battery with 4 updates/ daily
- Intrinsically safe, with ATEX Clearance
- Tamper/ Pilferage detection
- Compliant with C-DOT CCSP/ oneM2M platform

Indian Railways

Indian Railways, unlike many other complex use-case situations, has multi-dimensional propagation, range, battery life requirements

The resilience of the solution lies in its ability to survive the dust, temperature differences, operator skill and jugaad attempts and propagation challenges along with the protocol interoperability

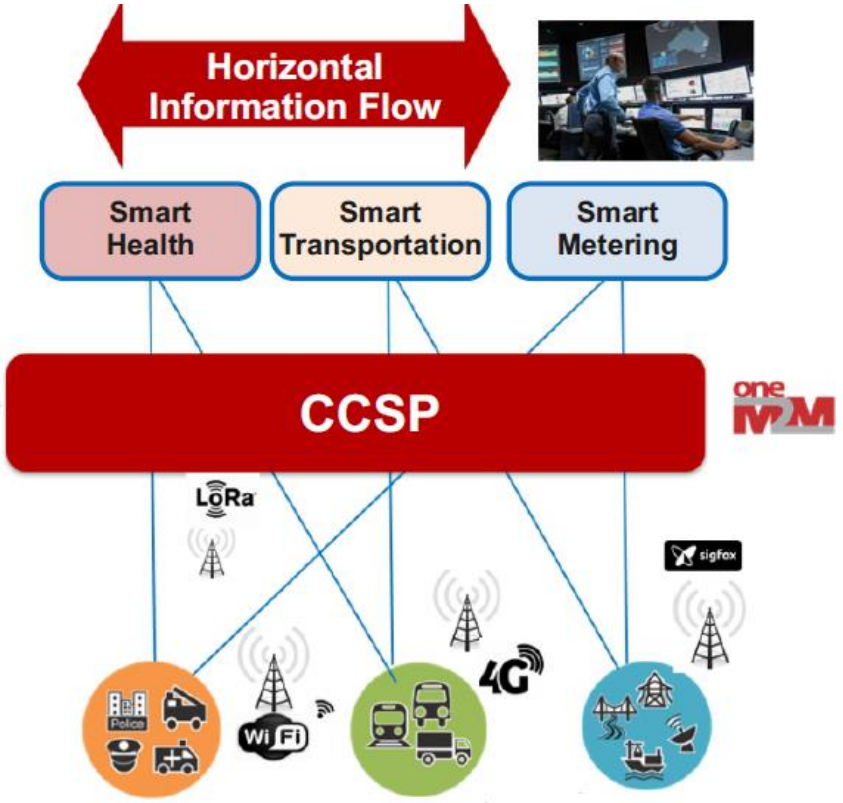
And, for specific case of a coach – the down time of a coach is too short for them to clean and us to install or test the setup – it remains a race against time

The solution has to be quick deploy and consistent/ standards based for the benefit of everyone

oneM2M benefits

Multiple sensors over LoRa, BLE and 4G that create a dynamic local network and send content securely – ensuring a remote sync enduring connectivity issues while the train traverses at 130kmph and connectivity is often erratic

CCSP over MQTT with well designed data semantics ensure connectivity and continuity over LoRaWAN, WiFi as well as GPRS with replaceable node protocol thereby a versatile solution ecosystem.



Issues/ Next steps

- It is in our (design/ product companies') myopic interest to have proprietary deployments
- It helps our customers and our overall scale to have a standards based installation – however even customers are not sensitized to this aspect of their rights. TSDSI needs to reach out instead of expecting *PSU users* to flock to them desiring a standards reference.
- CCSP addresses and adds to the business process resilience, however the field unit still has waveform/ protocol/ frequency dependency
- A SDR based multi-protocol node may be a solution which may be needed if the end-nodes are really to cross the billion installations.
- In my personal opinion: Every standard to be successful needs commercial success stories over short and long term – unless this gets proven participation may remain restricted

Thank You!

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