

# We Hear From

Anil Kumar Ghosh

## Internet of Things (IoT)

The internet of things reaches the consumers. The internet connected world promises comfort, efficiency and safety. One red Cayenne car was lost for only a very short time. The thieves had carried off that from Rome to southern Italy. A small mobile phone module which was manufactured by the Vodafone in North Italian Varese, helped to track down the SUV very quickly and it was in Naples. With that we find again 95% of all the Porsche cars in which our telemetric module is fitted—clarified Nicolaus Gollwitzer, the chief of Vodafone automotive.

The small grey structural part makes the luxury car partly the Internet of Things (IoT). A very small SIM card is integrated and takes care not only for the looking out for the Porsches, but also for its safety. In case of an accident all the information are transmitted simultaneously to the security operation centre in Busto a few kilometers away from Varese. Where and with which impact the vehicle has been met? Thanks to the little box (casket) the Vodafone coworkers know the answer and can render help.

More safety, more efficiency, higher quality of life and comfort all these are the motives for the Internet of Things in private domain. It makes the washing machine on the tablet observable as quick as washing powder runs short or it orders automatically in net. Assistants and emergency calling systems allow the old and the sick people a self-governed life in their usual neighbourhood.

The chip manufacturer Qualcomm distributes the smart life in three areas: smart body, internet connected systems which are carried right on the body, smart home – the internet connection at home and smart city, also intelligent traffic management systems or internet connected garbage transport.

The phantasy of the engineers and observers seems no boundaries set, that shown up-to-date development projects. In future transmission of wireless signals from bikini with Vodafone, as soon as its holder lies too long in the sun. Sensors in smart home can with IBM and Panasonic then not only recognize when anyone unlawfully prowls about the house, they also decide whether it is done by a thief or by neighbouring children, who are finally in search for their football.

Such ideas are not new. But why do you leave straight the domain of science fiction and become the massive economic reality? The time is simply ripe; the techniques for the realization of phantasies are available. Millions of sensors work so to say as eyes and ears in modern household instruments – knows Harriet Green, competent authority with IBM for the IoT business on computer platform Watson. They allow them this with one another as also with their environment to be in contact. On the huge quantity of data of the sensors the solutions are based for a smart life.

Nevertheless the data must first of all be transmitted to the further processing systems from the sensors. For that, radio techniques of all types are existing. There functions short wave radio like Bluetooth or RFID (Radio Frequency Identification) with its branch NFC (Near Field Communication) play a role just so as WLAN and mobile phone. As per use the Smartphone as for example collect the date of fitness-trackers on Bluetooth and then sound on the mobile.

Naturally, the big telecommunication transmission service providers also do not want to remain outside, so far as the way to the mobile phone standard of the 5<sup>th</sup> generation is concerned.

Special attention in 2017 certainly also worth of the communication with and under sensors. The CTO

of German Telekom Bruno Jacob fever born points his view forward. The commercialization of internet of things via small band communication will be one of the big branch trends in the coming year and also will engage us. The activation of small band IoT in network of German Telekom is an important milestone on the way in that direction.

So manifold ideas and existing individual solutions are, the world of internet of things which is from user point of view still very much indistinct. Players from differing domains have in view a genuine gold digger frame of mind to more or less have bound together in big alliance.

Therefore, alone in smart home exist insular solutions – round about the energy supplier Innogy, the German Telekom, but also the diverse service providers of home internet – side by side and together, and are incompatible. Here it is not always easy to recognize which components function together which do not.

However, this does not scare the increasing number of customers. For the society for consumer electricity and household electricity (gfU) it is steady. The smart home wave is no more kept open.

The online portal states computes more than 1.2 million smart homes upto 2018 and the IT market researchers of Gartner estimates that in the year 2022, in an average family household more than 500 smart internet connected objects will be put in motion – classical tablets, TV instruments or smart phones just so as smart current recorder and many electrical household gadgets in kitchens and washing machines in basement. Final assumption for all business models is a functional internet connection. As per IBM experts there are five functional requirements for IoT platform.

**Anil Kumar Ghosh**

*Source:* VDI nachrichten, 13 January 2017, Nr. 1/2/3, Seite 20, FOKUS Smarter Leben

## Reader's Response on Bailey Bridge

Bailey Bridge is a Portable Steel Bridge, the design of the bridge are on the unit construction principle. The basic unit of a bridge is a Panel (which termed as side railings in page no.8 of **Indian Science Cruiser Vol.32 no.1 of Jan,2018**) 3.048 meter Long (10feet). These are assembled with accessories(pre fabricated) to suit the bridge length & its load class. It is basically 'through' type Bridge and the Roadway being carried between two main girders formed from steel panel as mentioned. There may be different configuration of Bridges namely Single Single, Double Single, Double Double Triple Double etc. with or without Chord reinforcement as per the requirement. The Girders are connected crosswise by Transom made of High Tensile RSJ, which rest of the bottom chord of the Panel and carry the roadway superstructure. The connections are by clamps joined to keep these positions in place. The Panels are pinned together at top & bottom Chord by high tensile & corrosion resistant forged steel pin. End posts are attached to the ends of each truss panel of

the bridge girder and supported on bearing which rest over base plate placed on the ground on each end of the span. The Bridges are for standard width of 3.27meter roadway & extra width of 4.250meter with steel decking conform to AASTHO specification. Major components of Standard Type Bailey Bridges are:-

### PANEL made of High tensile steel

Transom-----Do-----

- Steel Deck (Chequered plate)
- Chord Reinforcement
- End posts (Male & Female)
- Bearings
- Base Plate
- Sway Bracing
- Bracing frame, Racker & Tie Plate etc.

Most of the connections are pinned type or clamp type to ensure speedy erection and commissioning.

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**Defence approved Bailey Bridge Manufacturer**