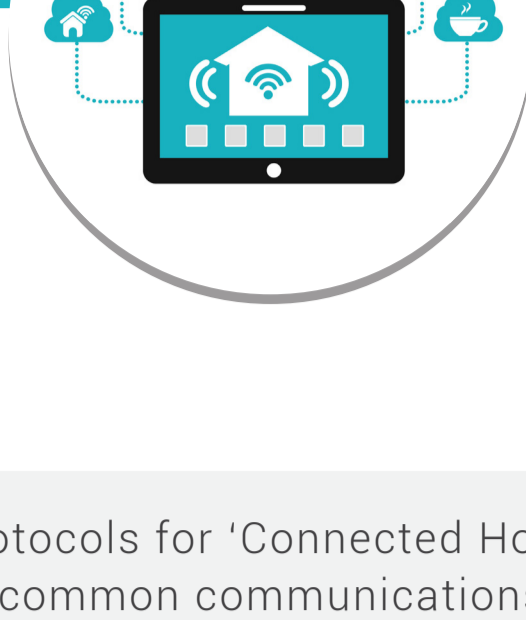
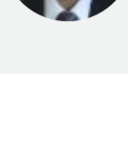


# Top Protocols for Connected Homes

As connected homes continue to progress, standards are evolving at a rapid pace towards protocols that will turn a pile of gadgets into an integrated system that run your entire house for you. Each protocol acts as its own language, and speaks with devices to deliver instructions to perform certain functions—in choosing a protocol users must consider several factors, such as ability to support several devices, power consumption, cost, bandwidth, and more. Six top experts in IoT have come together across a spectrum of industries, teaming up to share their insights concerning the leading protocols for connected homes.

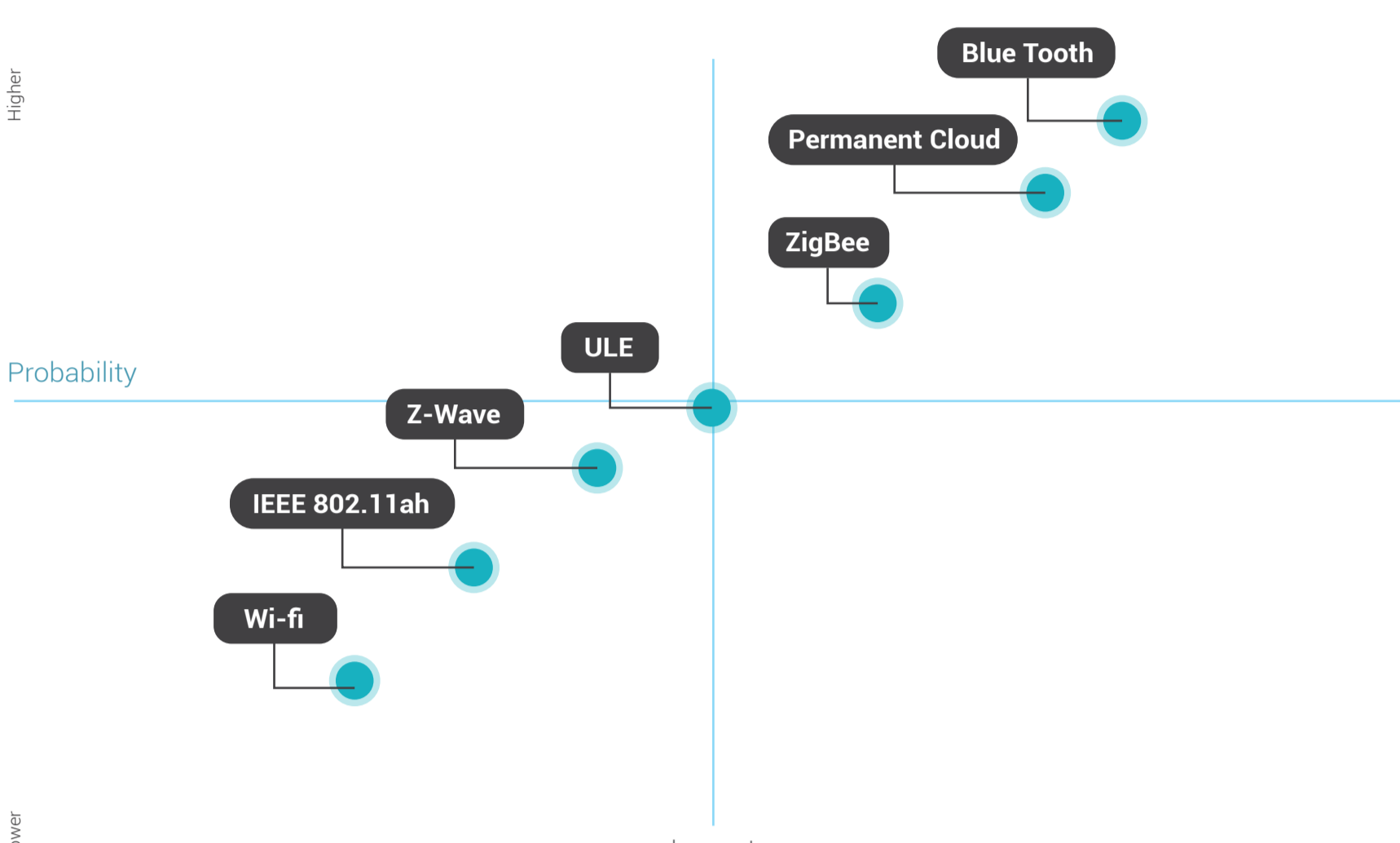


“Fundamentally protocols for 'Connected Homes' or broadly for IoT have to enact four common communications models - Device-to-Device, Device-to-Cloud, Device-to-Gateway, and Back-End Data- Sharing. Alongside enabling above communication models, “Connected Homes” or “Home IoT” standards and protocols should address two fundamental layers which are applications and network. Applications handles how devices interact & understand each other. Application layer is focusing on developing underliers that certify products to work well on the same standard.”

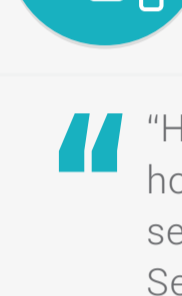


**Kishor Akshinthala**  
Leader Strategic Pursuits, Tata Consultancy Services

The graph below shows the ranking of each protocol according to perceived impact and the probability of implementation.



Here is what the experts have to say about the top three trends in protocols:

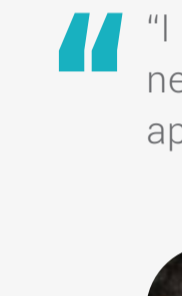


## Permanent Cloud

“Home automation will eventually require a permanent cloud solution, so the home user can leverage the IoT Protocol Gateways built into the various cloud services (IBM SoftLayers BlueMix, Microsoft Azure IoT Gateway, Amazon Web Services IoT gateway)”



**Scott Andersen**  
Founder, CTO, Creative Technology and Innovation

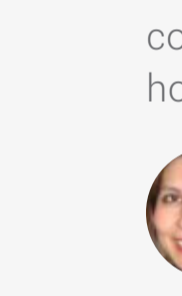


## Bluetooth

“I have created bluetooth connectivity with multi device hotspot. One issue - need good internet and being in India, I know why. Comments or experience appreciated on Open Source IoT Gateways for smaller environments.”



**Ojas Kikani**  
Chairman & Managing Director, Yogin Technologies



## ZigBee

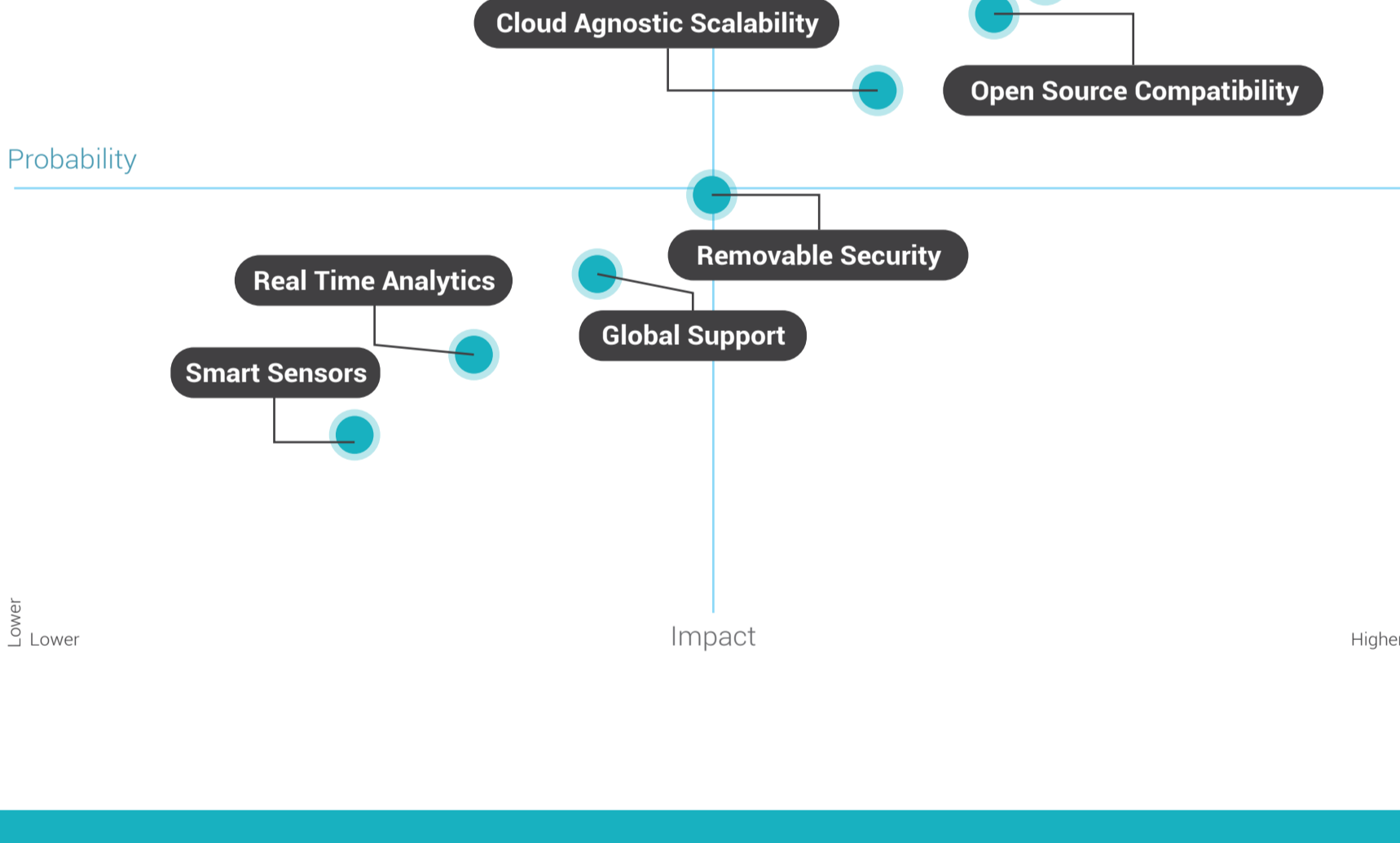
“Under the existing protocols this is possible although Wi Fi and Bluetooth may not be efficient or are constraining . There is hope that the Zig Bee and Z-wave connectivity standards will address more efficiently the needs of the connected home.”



**Norma Antuñano**  
Consultant

Participants discussed the trends that are currently defining the space of IoT in connected homes.

The graph below ranks each trend:

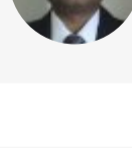


The three most driving trends were identified as computing economics, miniaturization, and open-source compatibility:

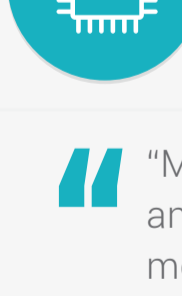


## Computing Economics

“Computing Economics is expediting home IoT adoption: Breakeven volumes of devices getting connecting are being attained with Moore's law continuing to deliver greater computing power at lower price points and lower power consumption.”



**Kishor Akshinthala**  
Leader Strategic Pursuits, Tata Consultancy Services



## Miniaturization

“Miniaturization is the trend to manufacture ever smaller mechanical, optical and electronic products and devices. Examples include miniaturization of mobile phones, computers and vehicle engine downsizing. Coupled with greater computing economics, this has fueled the advancement of small and inexpensive sensor devices, which drive many IoT applications.”



**Kishor Akshinthala**  
Leader Strategic Pursuits, Tata Consultancy Services

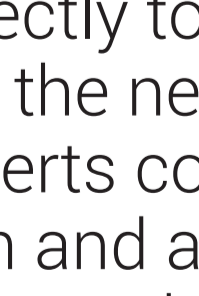


## Open-Source Compatibility

“Shared infrastructure/open source platforms helps in bringing down "Total Cost of Ownership" which is important.”

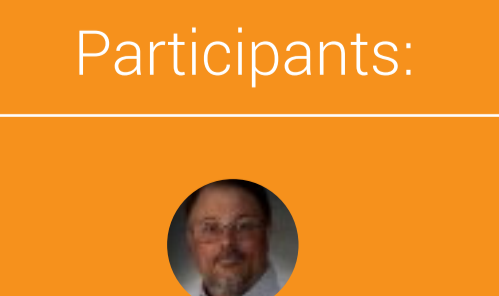


**Ojas Kikani**  
Chairman & Managing Director, Yogin Technologies



Connect directly to your market.  
**Convetit** is the network where teams and experts connect, providing custom research and actionable insights in days instead of months.

Learn more at



### Participants:



**Anand Vaidyanath**  
Senior Project Consultant, VTTI B.V.



**Scott Andersen**  
Founder, CTO, Creative Technology and Innovation



**DeWayne A. Nelson**  
Managing Director, Navidar



**Kishor Akshinthala**  
Leader Strategic Pursuits, Tata Consultancy Services



**Ojas Kikani**  
Chairman & Managing Director, Yogin Technologies



**Norma H. Antuñano**  
Consultant