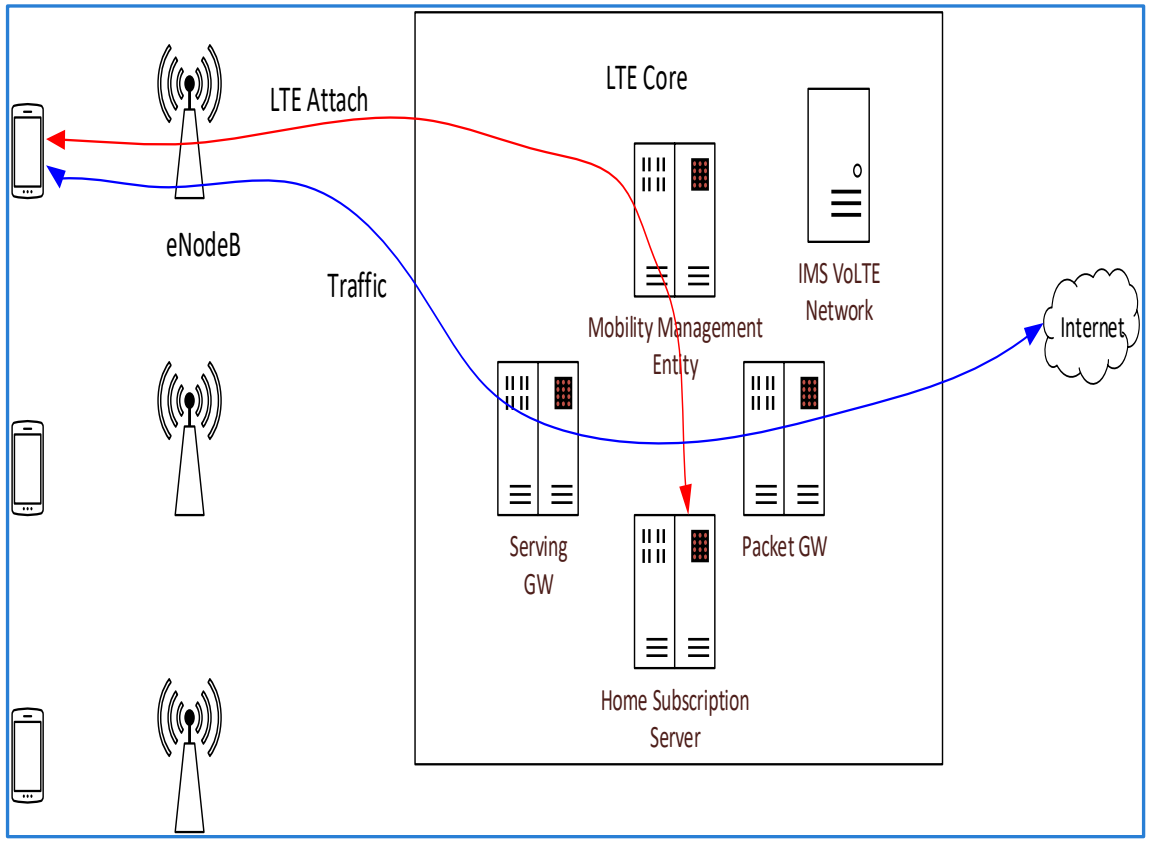
Beyond LTE: The Networkless Network and a new dawn

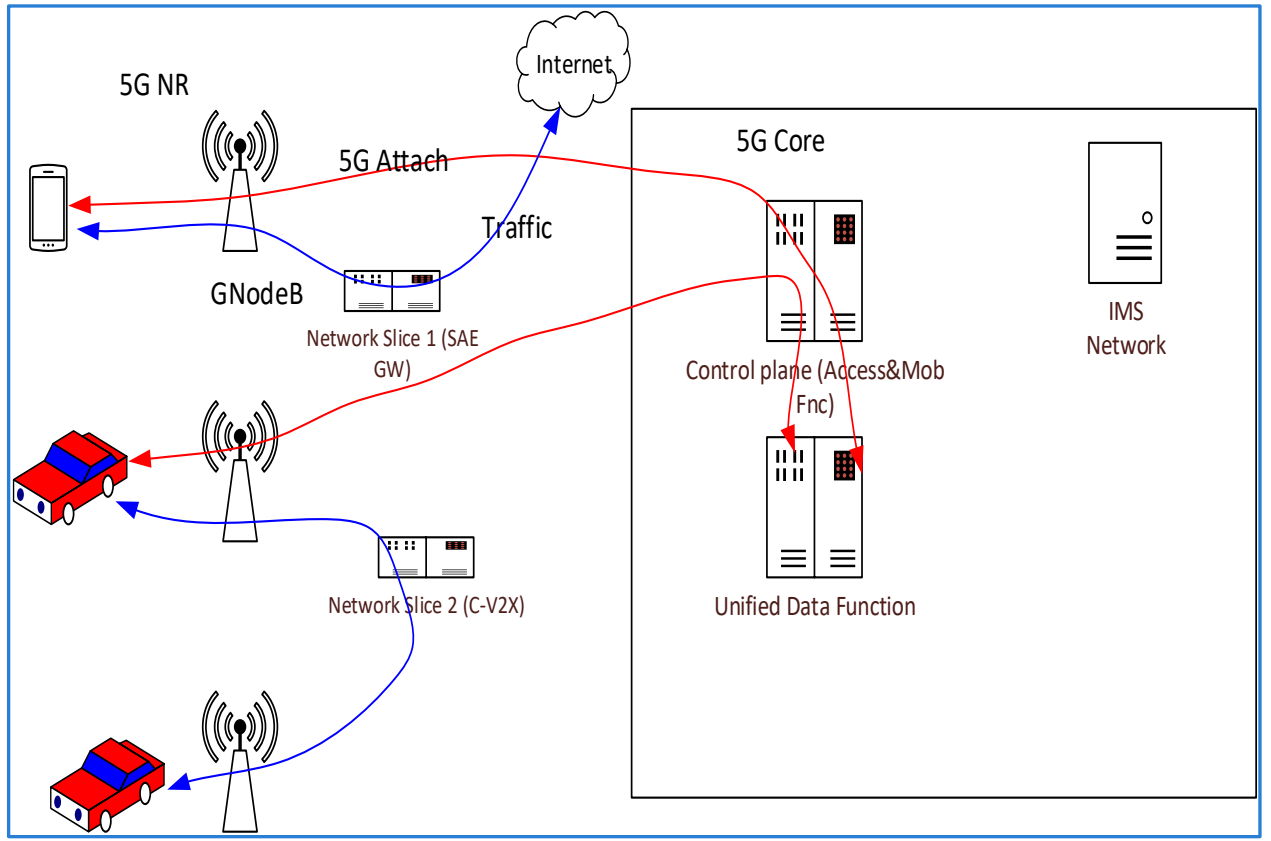
RAJARSHI SANYAL (PH.D)

MOBILE NETWORK ARCHITECT

State of the art mobile networks

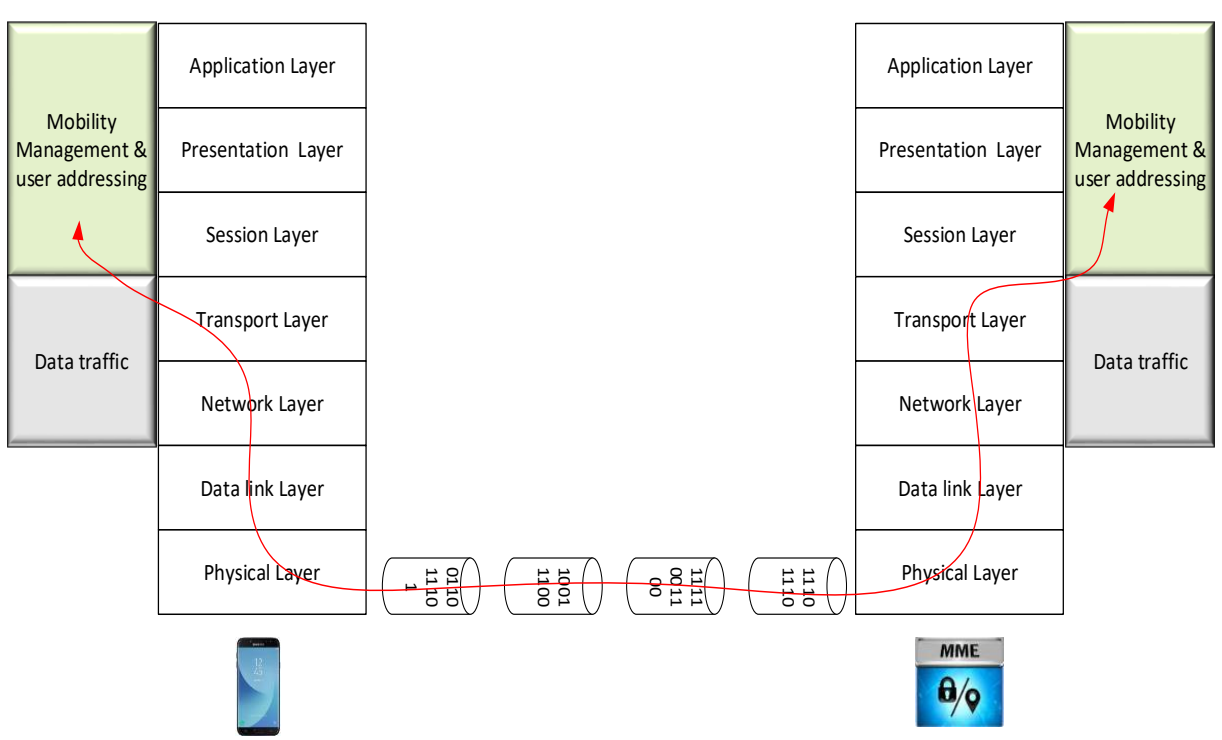
Primary Tasks: Mobility Management + End user Addressing+ Bearer establishment for data traffic



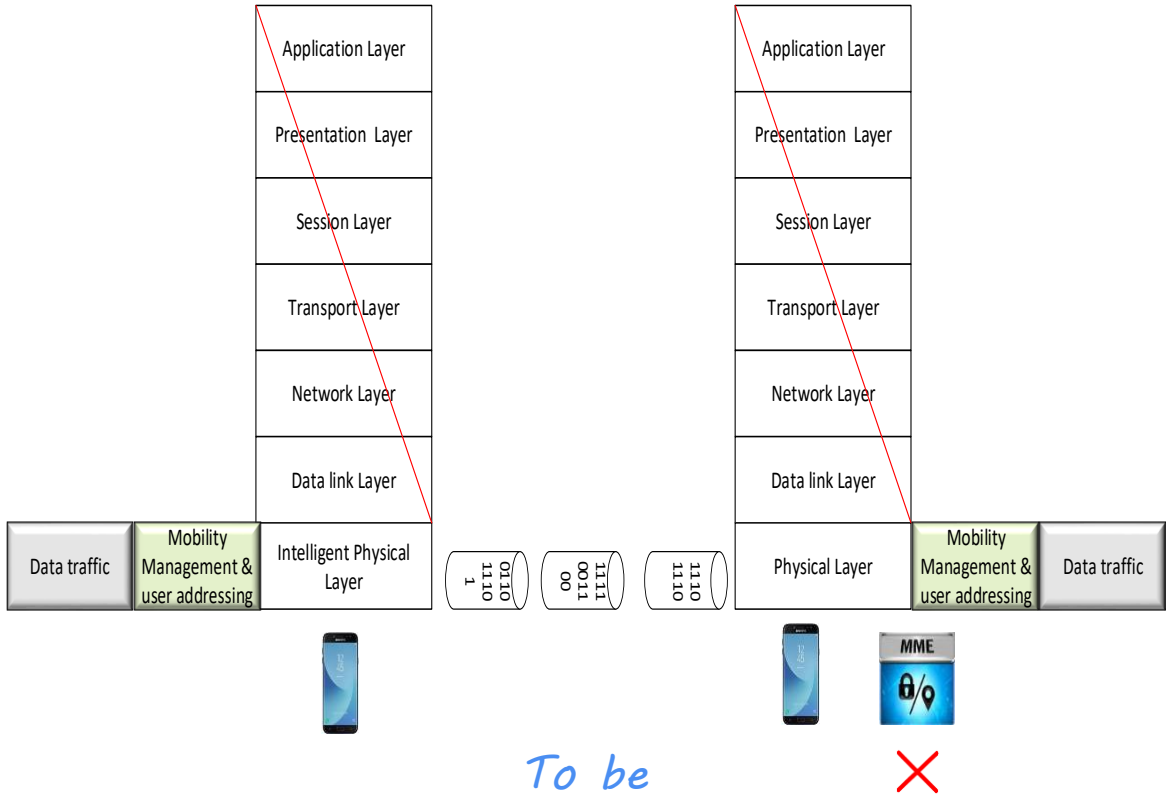


Beyond 5G – the notion of networkless network

Question: Can the air interface be made intelligent enough to accomplish the primary tasks of a mobile network?



As is



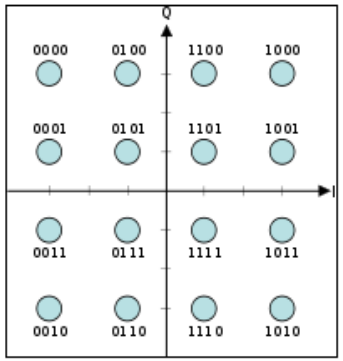
To be

2 new multiple access schemes

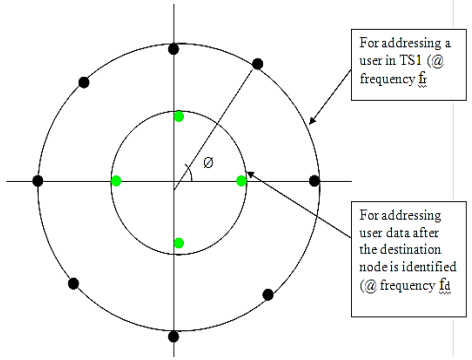
Objective: Render an intelligent physical layer for device to device communication @ massive scale

1. SMNAT : Smart Mobile network access topology

Highlights: New modulation scheme, new checker board cell structure for mobility management



LTE



SMNAT

2. CPMA : Colour Pixel Multiple Access

Highlights: Using electronic (video) colour as a carrier

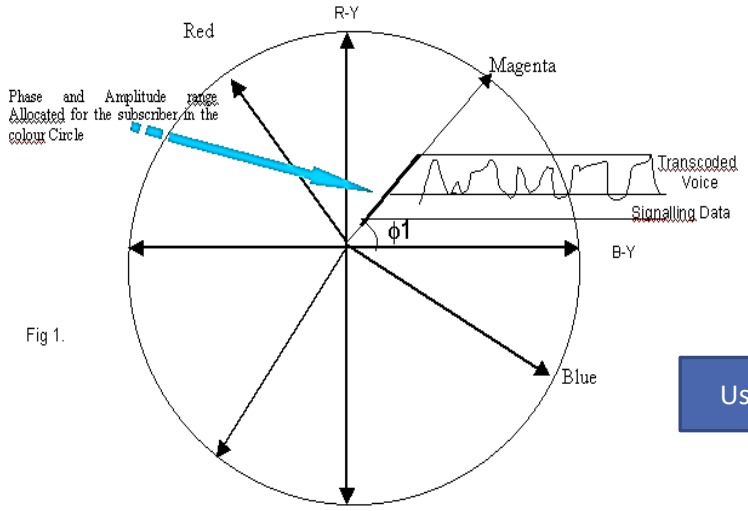
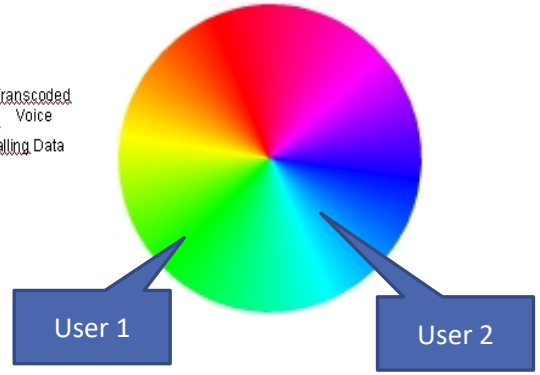


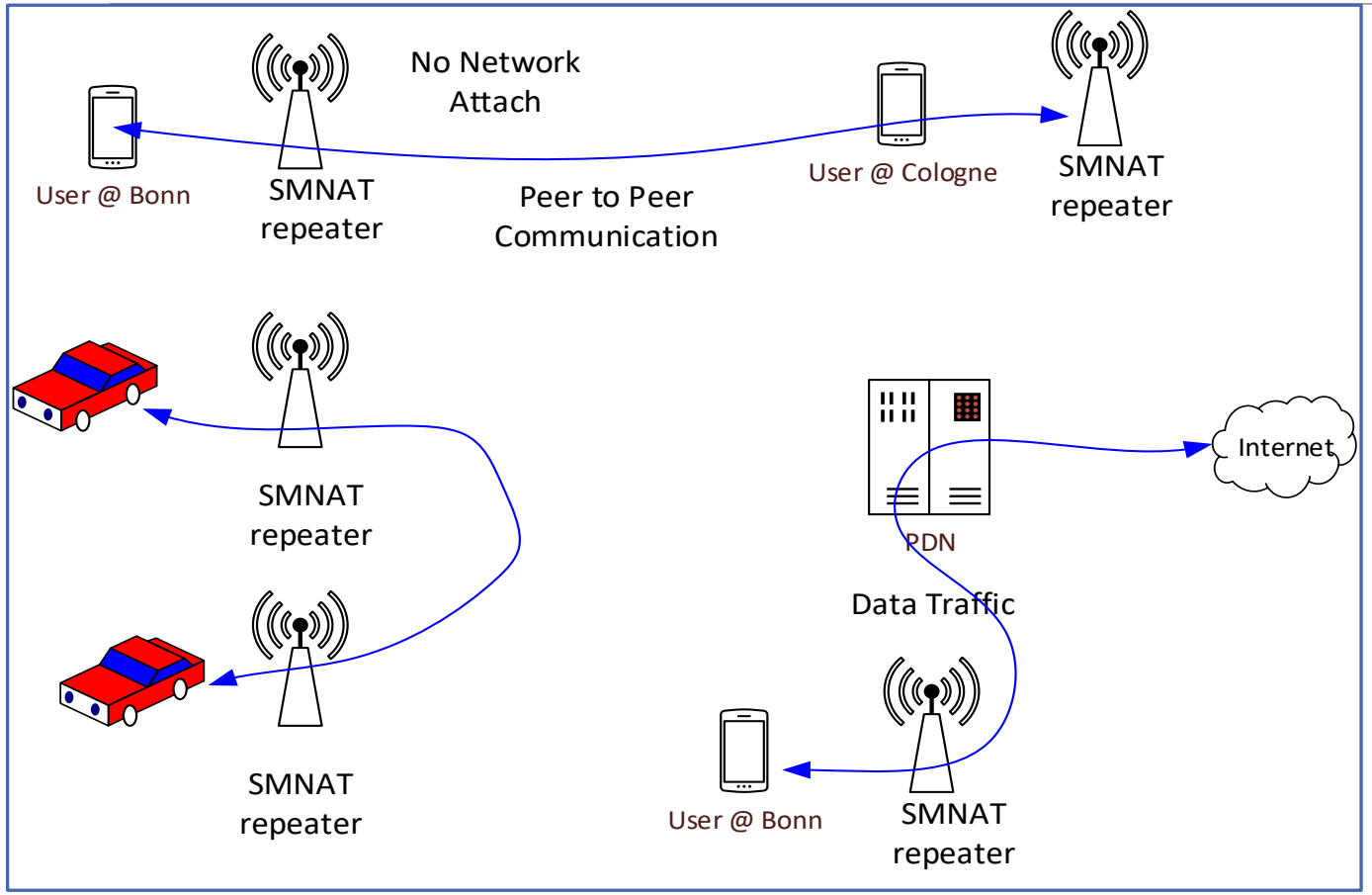
Fig 1.



IMSI(E.212 NP) / MSISDN (E.164 NP) = f (Ø , Sb, Pixel Coordinate)

Networkless communication

No real network, full mobility, no real RAN, just dumb repeaters, no spatial constrains for device to device communication



Application Areas:

- Massive machine type communications
- Closed User group networks
- Global roaming network
- Free/ Cheap mobile data
- Automotive communication

Type of partnership sought

Technical

1. Proof of value : setup campus network
2. E2E Architecture and design : including the billing and legal interception part
3. Standardisation

Finance & Marketing

1. Budget calculation for commercialisation of technology
2. Financial sponsorship to conceive end product / device
3. Marketing assistance