Approach for Digital India

What are the factors that drive internet access and usage in India?

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- An overriding factor is the growth **of wireless devices and traffic** as a global phenomenon.
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- Cisco estimated in June 2016 that in 2015, wired access comprised 52 per cent of IP traffic, but would reduce to one-third by 2020, while **wireless access would increase to two-thirds.**
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- This trend is reinforced by another factor: Innovation that lowers costs and improves performance in mobile wireless.
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- Metropolitan and urban areas have additional factors, such as intense competition in Optical Fibre Communication (OFC) in localities with high commercial potential.
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- Fibre is preferable provided the installation is feasible at reasonable cost, and is commercially sustainable.
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- There are exceptions, as in the high-speed trading links mentioned above, or where users are geographically dispersed. Even in dense urban areas, it is sometimes impractical to install OFC connections because of congestion and/or rights-of-way costs.
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- The third factor is the combination of the **geographic spread** of our population, the concentration of **broadband penetration** and the limited coverage of OFC networks.
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What are the problems associated with OFC?

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- While major cities and their connecting links are covered by OFC, less

populated and less commercially attractive areas between them are not connected.
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- In hilly terrain, there is considerable difficulty in laying OFC, which extends far beyond cost.
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- In urban areas, cost can be a deterrent because we lack reasonable, uniform charges for rights-of-way.
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- Such procedures and practices are difficult to institute and enforce viable OFC networks.
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- It’s not only the installation of the OFC, but of **ensuring quality and reliability.**
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- OFC networks in India apparently suffer from 12 to 14 cuts per km per month, whereas the **international benchmark is 0.7 km per month.**
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- Apart from more frequent repairs, the capital expenditure is nearly three times as high as in Australia or the US.
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- Estimates for installing OFC using standard procedures vary from about Rs 1 lakh to Rs 4 lakh per km. However, there have been attempts at getting costs down by radical changes in approach.
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Redesigning the approach:

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- For all these reasons, we need concerted action to redesign our approach to broadband, covering the fundamentals of infrastructure, spectrum and market designs.
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- We have the experience of building other infrastructure such as roads and airports on revenue-sharing principles.
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- We have to take a similar systematic, phased approach to designing and implementing broadband networks.
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- **Policies on infrastructure resource use including spectrum need to be rationalised**, and the sector organised through participative path-finding and problem solving.

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- We have to build national champions in manufacturing to keep costs affordable, for instance, using TV White Space.
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- India could set the standard with its IPR and products where OFC is infeasible or unviable for connectivity to villages and rural clusters.
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- Both the administrative and political leadership need to do this, working with all stakeholders, and not treating any of them as adversaries, or cronies.
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