

**CHENNAI – PONDICHERRY**

**TOWARDS MOBILE FEDERATED NETWORK OPERATORS**

**ABSTRACT:**

Mobile Network Operators provide wireless communication services to their customers using their own network infrastructures. For providers, in particular in low income countries, access to latest network functions to offer 4G/5G services can be a large burden as this is directly impacted by financial restrictions of operators. Although some network sharing solutions between operators to reduce the total cost of ownership exist in standards and literature, none address specific requirements of the operating environment of low income countries. In our approach, we are exploiting the raising interest in the cloudification of the related infrastructure, namely Network Function Virtualization (NFV) over Software Defined Networks (SDN), to allow each operator in these countries to offer specific network functions as a service in a federation in order to share them and to increase their revenue. Initial results are presented based on the development of a commercial toolkit (OpenSDNCore) and a federated testbed research project (TRESCIMO). As a result, we define the notion of a Mobile Federated Network Operator (MFNO) and provide an analysis of the underlying requirements for such a use case and potential approaches to address them.