VisorSurf is a research vision whose objective is to enable a new level of flexibility and software control of wireless and software components for wireless networks.

The main enablers are the HyperSurfaces, engineered materials whose electromagnetic properties depend on their internal structure. HyperSurfaces realise software-controlled electromagnetic behavior, is addressing this.

VisorSurf has received funding from the European Union via the Horizon 2020: Future and Emerging Technologies (FET) call for FETOPEN projects, whose objective was to develop a full stack of hardware and software protocols unsuitable. Thus, we developed novel FI and FT techniques to allow integration into novel applications.

VisorSurf has published the following in 2020.

- A patent on the “A New Wireless Communication Paradigm: Realizing Programmable Wireless Environments Through Programmable Metasurfaces”.
- A paper on the “VisorSurf: Enabling software-controlled electromagnetic behavior in a future wireless communication environment”.

Visit Surf partners gathered to show their latest wireless and software prototypes in the period 2017-2018.

VisorSurf is an experimental setup which aims to emulate the Hypersurface network using wireles communication nodes, such as Wi-Fi Direct peer-to-peer wireless devices. Gateway (controller nodes) link the testbed nodes to allow communication with the Hypersurfaces Emulator.

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Fault Identification Protocol: Novel techniques (FT) can examine to ensure wireless network operation, which is a critical component of Fog computing. Fog computing is defined as the evolution of Internet of Things (IoT) where data is processed near to the edge of the network, where it’s produced, to ensure performance, control and optimize data. The Fault Identification Protocol is designed to detect and isolate faults in a wireless network and then activate the failure handling mechanism to provide restoration of network services when faults are detected.

More about VisorSurf

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