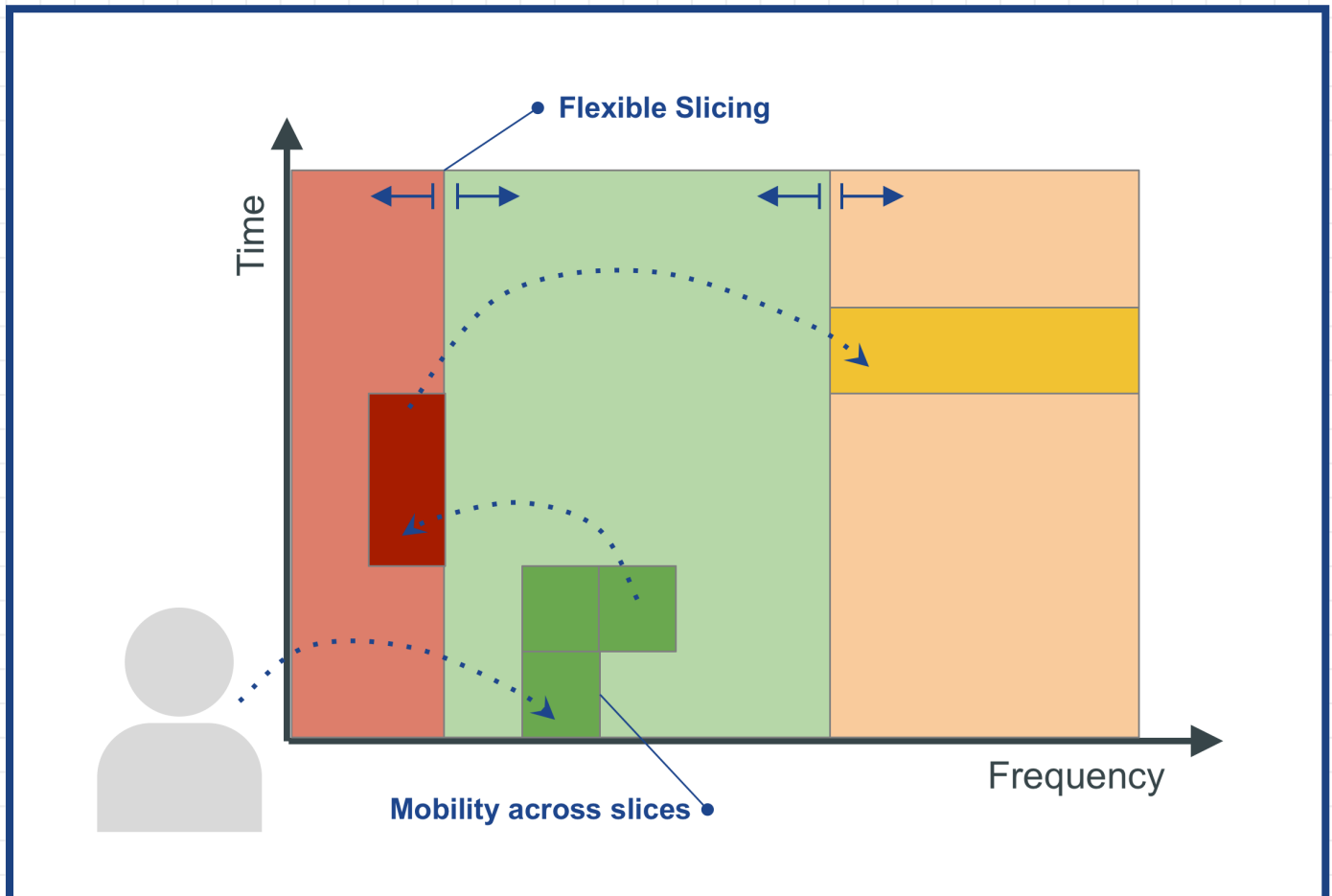


BASIC SDR CONTROL PLANE FUNCTIONALITY

Slice coordination

Management and optimized allocation of radio resource (freq, time, space)
and users across radio slices (inter slice)



Framework for flexible frequency slicing on the host:

- Provide flexible slice instantiation and reconfiguration depending on the networks' load or demand within a slice.
- Enable users seamless mobility across slices whilst maintaining slices' access transparent.



BASIC SDR CONTROL PLANE FUNCTIONALITY

Slice coordination: Management and optimized allocation of radio resource (freq, time, space) and users across radio slices (inter slice)

CONTEXT

Traffic demand of wireless networks varies with time, frequency, and space in an unpredictable fashion, due to the non-uniform spatio-temporal traffic demands of its users. However, network operators do not provision resources dynamically, leading to overprovisioning of their allocated resources. In a multi-slice environment, a new dimension of complexity arises, as some users may also move across slices depending on their current traffic requirements and context (e.g. latency, throughput, power consumption, mobility), where inter-slice coordination plays an important role to resolve these types of complexities.

UNIQUE SELLING POINT

- Design of control mechanisms that enable radio devices to seamlessly hop across RAN slices with distinct PHY and MAC schemes.
- Proposal and design of decision algorithms for the allocation of users to RAN slices, and a theoretical model to access the suitability of such algorithms.

OPPORTUNITIES

- Evaluation of different decision algorithms for the allocation of users to different RAN slices, depending on their current traffic requirements and the network load.
- Evaluation of the latency associated to the dynamic association of users to RAN slices.