

RADIO ENGINEERING

FROM SOFTWARE RADIO TO COGNITIVE RADIO

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Software radio ideally provides the opportunity to communicate with any radio communication standard by modifying only the software, without any modification to hardware components. However, taking into account the static behavior of current communications protocols, the spectrum efficiency optimization, and flexibility, the radio domain has become an important factor.

From this thinking appeared the cognitive radio paradigm. This evolution is today inescapable in the modern radio communication world. It provides an autonomous behavior to the equipment and therefore the adaptation of communication parameters to better match their needs.

This collective work provides engineers, researchers and radio designers with the necessary information from mathematical analysis and hardware architectures to design methodology and tools, running platforms and standardization in order to understand this new cognitive radio domain.

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