

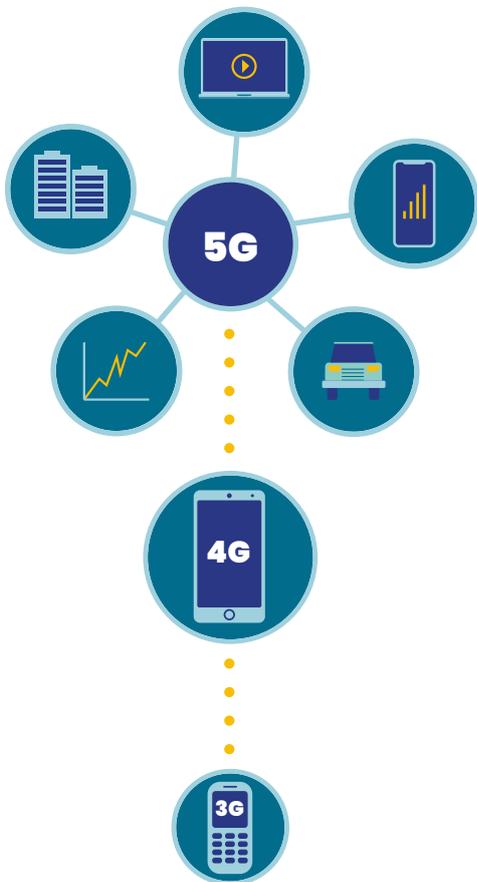
WHAT IS A STANDARD ESSENTIAL PATENT?

STANDARD ESSENTIAL PATENTS ARE AT THE CORE OF MOBILE COMMUNICATION AND MODERN LIFE

It is no exaggeration to say that Standard Essential Patents (or SEP) are fundamental to modern society and life. To understand their importance, however, you first need some context.

Cellular communication standards have enabled the creation of cellular phones, smartphones and other mobile, wirelessly connected devices. They enable mobile communication through their use of a complex radio system to transmit data between connected devices across the cellular communication network.

These standards are massively detailed documents which define every aspect of how the cellular network operates and how devices work within it. The standards are subject to continuous intensive development and have passed through several generations, from 1G to 4G. The fifth generation (5G) has been finalised and is being rolled out now.



Cellular communication standards create the opportunity for the development of new digital services and marketplaces, like the app ecosystem and the Internet of Things (IoT). The system through which they are developed – which is based on a European model of open, collaborative technology development – has four major benefits that have enabled rapid advances in cellular networks, device connectivity, and digital services. These are:

Focusing **global** R&D resources



Promoting **competition and innovation** in connected hardware and services



Affording **rapid** consumer access to the **latest and best** cellular technologies



Ensuring global **interoperability** and coverage



However, none of these benefits would be possible without SEP and the FRAND commitment.

WHAT IS A STANDARD ESSENTIAL PATENT?

A Standard Essential Patent is the name given to a patent which protects technology that has been selected for use in a standard. Patented inventions that must necessarily be used when implementing a cellular communication standard are “essential” to that standard and should be made available for use under a patent licence on a Fair, Reasonable and Non-Discriminatory (FRAND) basis by their owners.

The FRAND principle is carefully balanced to ensure that cellular technology developers and implementers share in the benefits of cellular standardisation. It ensures that the inventors of cutting-edge telecommunication technologies – which have cost millions of Euros to develop and have been voluntarily contributed to the standardisation process – are guaranteed a fair return on their investment. It also ensures that connected hardware manufacturers have access to the cellular communications standard on a reasonable and non-discriminatory basis. FRAND facilitates the widespread use of the standard and ensures that each SEP owner is able to receive a return on the results of its R&D without gaining an unfair bargaining position.



WHY ARE STANDARD ESSENTIAL PATENTS VITAL TO THE FUNCTIONING OF OPEN CELLULAR STANDARDS?

For the system of open cellular standards development to be economically sustainable for all stakeholders, two key tests must be met.

Firstly, many world-leading research and development intensive organisations, including companies, universities, and public research organisations need to make a fair return on investment (ROI). They take sizable financial risks to invent cutting-edge new telecommunication technologies for cellular standards. Many of these are not selected for use, but it is the breadth and intensity of invention which achieves the extraordinary rate of technical progress we have seen to date. To continue to invest in cellular telecommunication innovation, these organisations need to have confidence that there is enough potential ROI available from licensing SEP to justify further investment. They need to have confidence that, if their technology is included in a standard, they will receive fair and reasonable compensation.

Secondly, connected hardware manufacturers that use (or ‘implement’) the technology of open cellular standards in their products need to know that they will not later be arbitrarily blocked from using one of the many patented technologies in a cellular standard, or charged a price which is deemed unreasonable or discriminatory in relation to similarly situated implementers. All the patented technology that is included in the standard must be accessible to implementers to ensure that they can fully comply with the technical specifications and provide seamless products and services to end-users.

The carefully balanced system of FRAND licensing of SEP provides the greatest possible benefits to device and network makers, consumers, and the inventors of telecommunication technologies alike. The alternative would be a fragmented set of competing proprietary technologies, exclusively owned and used by a few gatekeepers.

