P1918.1

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Type of Project: New IEEE Standard
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Status: PAR for a New IEEE Standard

1.1 Project Number: P1918.1
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Title: Tactile Internet: Application Scenarios, Definitions and Terminology, Architecture, Functions, and Technical Assumptions

3.1 Working Group: Tactile Internet (COM/SDB/TI)
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None

3.2 Sponsoring Society and Committee: IEEE Communications Society/Standards Development Board (COM/SDB)
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4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 04/2018
4.3 Projected Completion Date for Submittal to RevCom: 10/2018

5.1 Approximate number of people expected to be actively involved in the development of this project: 20
5.2 Scope: This standard defines a framework for the Tactile Internet, including descriptions of various application scenarios, definitions and terminology, functions, and technical assumptions. This framework prominently also includes a reference model and architecture, which defines common architectural entities, interfaces between those entities, and the mapping of functions to those entities. The Tactile Internet encompasses mission critical applications (e.g., manufacturing, transportation, healthcare and mobility), as well as non-critical applications (e.g., edutainment and events).

5.3 Is the completion of this standard dependent upon the completion of another standard: No
5.4 Purpose: This standard facilitates the rapid realization of the Tactile Internet as a 5G and beyond application, across a range of different user groups. Additionally, this standard provides the groundwork upon which the Tactile Internet will be formed. To this end, this standard provides a baseline for a pioneering range of further standards that will be created under this working group realizing the key necessary technical capabilities of the Tactile Internet.

5.5 Need for the Project: The Tactile Internet presents acutely challenging requirements, in terms of latency, reliability, security, and likely others such as the density of users, devices and links. The Tactile Internet is also highly multi-disciplinary, requiring consideration of aspects outside of the scope of communications technology. While there is broad standardization of 5G technology ongoing under the efforts of the 3GPP, IEEE, ETSI and others, which aim to set the structures in place to realize a range of challenging applications, there are not standards addressing the multi-disciplinary nature of the Tactile Internet or considering the precise challenging mix of requirements that the Tactile Internet entails. This standard, and the following additional standards that will be formed at a later stage under this working group, addresses such aspects.

5.6 Stakeholders for the Standard: A range of stakeholders will benefit from this standard. Network equipment and device manufacturers will benefit through the instantiation of an entirely new and innovative wireless communications application. Various other categories of manufacturers will also benefit, such as those involved in creating haptic and kinesthetic devices or equipment. End users will benefit through: (i) the enhanced entertainment and interactivity that will manifest through the Tactile Internet, (ii) the ability to work on a far wider range of tasks remotely, e.g., via haptic control, and (iii) general enhancement in the quality of life through the ability for skilled people to better carry out tasks remotely, such as surgeons carrying out remote medical operations for example. Mobile communications operators will benefit from the provision and charging for traffic over their networks resulting from this technology. Various industry and service providers in general will benefit, through the Tactile Internet allowing a range of skilled people to carry out their work remotely. Governmental services (e.g., emergency services) will benefit. Educators and training organizations will benefit through being able to better carry out training for skilled tasks remotely.

A further group of stakeholders of this standard includes regulators. As well as communications regulators, this might also involve regulators of the technologies that the Tactile Internet will help realize remotely.

Intellectual Property
6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No
6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

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7.1 Are there other standards or projects with a similar scope?: No
7.2 Joint Development
Is it the intent to develop this document jointly with another organization?: No

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8.1 Additional Explanatory Notes (Item Number and Explanation):