

# 平成 30 年度日欧共同公募委託研究 第 1 回中間評価結果（概要）

（研究期間 平成 30 年度～令和 3 年度）

研究開発課題名	受託者（共同研究者）
<p><b>採択番号 19601</b>                      欧州との連携による Beyond 5G 先端技術の研究開発</p> <p><b>副題</b>                      大容量アプリケーション向けテラヘルツエンドトゥーエンド無線システム</p> <p><b>Acronym ThoR</b></p>	<p>学校法人早稲田大学                      （学校法人千葉工業大学、国立大学法人岐阜大学、日本電気株式会社、高速近接無線技術研究組合）                      （Technische Universität Braunschweig（ドイツ）、Deutsche Telekom AG（ドイツ）、                      Fraunhofer Institute for Applied Solid State Physics（ドイツ）、Siklu Communication Ltd.（イスラエル）、                      University of Lille（フランス）、University of Stuttgart（ドイツ）、Vivid Components Ltd.（イギリス）</p>
<p>評価※</p>	<p>Project has fully achieved its objectives and milestones for the period.</p>
<p>主な評価コメント</p>	<ul style="list-style-type: none"> <li>• The project has achieved so far good results in terms of dissemination, exploitation, and impact potential. In particular, regarding dissemination, the project has produced six ThoR papers published in proceedings of three international conferences by M12, five further conference papers have already been accepted, and four journal papers are in preparation.</li> <li>• The ThoR project targets the provision of solutions for the wireless fronthauling and backhauling links required by 5G and B5G networks. In view of the data traffic density and volume, and the network densification, data rates of 200+ Gbps will be targeted. This will be made possible by exploiting frequency bands around 300 GHz. ThoR targets demonstrations (both HW and SW) to validate their system concept and confirm its feasibility, and also the securing of the corresponding spectrum allocation at the World Radio Conference 2019.</li> <li>• The deliverables provided are of good quality but often with a delay of 1 to 2 months, as reported per deliverable in Periodic Report Y-1</li> <li>• The workplan appears to have been followed without major deviations. No noticeable delay has been reported for this Period.</li> <li>• Regarding impact, the objectives are set and described in the table of summary of results. Among them some important and challenging ones carried on by the Academic and industrial beneficiaries for DEMO-1 and for the next DEMOs under preparation.</li> <li>• Two demonstrations defined by ThoR are world-first and consist in:                         <ul style="list-style-type: none"> <li>➢ an &gt;100 Gbps P2P link over 1 km at 300 GHz using pseudo data in indoor and outdoor controlled environments;</li> <li>➢ an &gt;40 Gbps P2P link over 1 km at 300 GHz using emulated real data in a live operational communication network.</li> </ul> </li> <li>• The only drawback is the early warning on the difficulties already encountered by the first manufacturing of TWTA prototypes in this first year. Such technology is known for its difficulty to control its manufacturing process.</li> </ul>
<p>※評価                      ランク表</p>	<p><u>Project has fully achieved its objectives and milestones for the period.</u>                      Project has achieved most of its objectives and milestones for the period with relatively minor deviations.                      Project has achieved some of its objectives and milestones; however, corrective action will be required.                      Project has failed to achieve critical objectives and/or milestones and/or is severely delayed.</p>