

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT7662099

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
TECHNISCHE UNIVERSITÄT MÜNCHEN	04/16/2019
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	NOKIA SOLUTIONS AND NETWORKS OY
<b>Street Address:</b>	KARAPORTTI 3
<b>City:</b>	ESPOO
<b>State/Country:</b>	FINLAND
<b>Postal Code:</b>	02610
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	17290175
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
<b>Email:</b>	Nokia.IPR@nokia.com
<b>Correspondent Name:</b>	NOKIA OF AMERICA CORPORATION
<b>Address Line 1:</b>	600-700 MOUNTAIN AVENUE
<b>Address Line 4:</b>	MURRAY HILL, NEW JERSEY 07974-0636
<b>ATTORNEY DOCKET NUMBER:</b>	307147-US-PCT
<b>NAME OF SUBMITTER:</b>	MUKESH KUMAR SRIWASTAVA
<b>SIGNATURE:</b>	/Mukesh Kumar Sriwastava/
<b>DATE SIGNED:</b>	11/24/2022
<b>Total Attachments: 2</b>	
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## INVENTION ASSIGNMENT

This Assignment is effective as by contract "Frame Agreement" dated 23.06.2009 between

Assignor **TECHNISCHE UNIVERSITÄT MÜNCHEN**, Arcisstr. 21, 80333 Munich, Germany,

and

Assignee **NOKIA SOLUTIONS AND NETWORKS OY**, Karaportti 3, 02610 Espoo, Finland, a corporation organized under the laws of Finland.

We, **TECHNISCHE UNIVERSITÄT MÜNCHEN** acknowledge, that **TECHNISCHE UNIVERSITÄT MÜNCHEN** claimed full and unrestricted rights from its employees in and to the share of the Invention(s) listed in the attached Schedule "LIST OF ASSIGNED INVENTIONS" in accordance with that certain Frame Agreement made 23.06.2009 and the Individual Agreements between **TECHNISCHE UNIVERSITÄT MÜNCHEN** and **NOKIA SIEMENS NETWORKS OY** made as listed in the attached Schedule "LIST OF ASSIGNED INVENTIONS" (hereinafter "Agreement"):

**TECHNISCHE UNIVERSITÄT MÜNCHEN** sells, assigns, transfers and conveys to **NOKIA SOLUTIONS AND NETWORKS OY**, and its successors, all right, title, and interest in and to TUM's inventive contribution in each of the Inventions listed in the attached Schedule "LIST OF ASSIGNED INVENTIONS" and all Patents arising from the Inventions, including any and all divisionals, reissues, reexaminations, substitutions, continuations and continuation-in-part which may be granted for such Inventions as well as all foreign counterparts thereof.

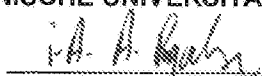
This sale, assignment, transfer, and conveyance to **NOKIA SOLUTIONS AND NETWORKS OY**, and its successors and assignees, is made subject to certain retained rights in favor of **TECHNISCHE UNIVERSITÄT MÜNCHEN** for the Inventions listed in Schedule "LIST OF ASSIGNED INVENTIONS", as are set forth in the Agreement.

**WHEREOF**, the parties have caused their respective corporate names to be affixed hereto and this instrument to be signed by their duly authorized officers as of the day and year written below.

## LIST OF ASSIGNED INVENTIONS

Nokia reference number	TECHNISCHE UNIVERSITÄT MÜNCHEN reference number	Receipt date Nokia	Title	Inventors	TUM's inventive contribution	Individual Agreement date
NC315488	2019-01E03	29 November 2018	METHOD FOR SUPPORTING MASSIVE IOT IN 5G RADIO	Richard Waldhauser Andreas Maeder Mikhail Vilgelm (TUM) Murat Guersu (TUM)	50%	23 July 2018
NC315512	2019-01E09	30 November 2018	METHOD FOR JOINT SIDELINK AND INFRASTRUCTURE TRAFFIC OFFLOADING	Richard Waldhauser Andreas Maeder Markus Klügel (TUM)	50%	23 July 2018
NC315021	2018-10E04	08 October 2018	VIDEO COMPRESSION OPTIMISATION FOR OFFLOADED AR COMPUTATION	Rastin Pries Christoph Bachhuber (TUM)	50%	19 February 2018
NC315064	2018-11E08	16 October 2018	ARQ OPERATION ENHANCED WITH TREE-DECISION LOGIC FOR NON-SCHEDULED ACCESS	Andreas Maeder Richard Waldhauser Murat Guersu (TUM) Mikhail Vilgelm (TUM) Wolfgang Kellerer (TUM)	60%	23 July 2018
NC307427	2018-12E07	30 August 2018	A SEQUENCE COMPRESSION METHOD FOR DIAGNOSIS OF EVENTS IN MOBILE NETWORKS	Márton Kajó (TUM) Benedek Schultz	20%	26 June 2018
NC307441	2018-10E20	30 August 2018	A METHOD AND APPARATUS FOR FAULT PREDICTION IN MOBILE NETWORK MANAGEMENT	Márton Kajó (TUM) Benedek Schultz Janne Ali-Tolppa	33%	26 June 2018
NC105559	2018-10E19	12 April 2018	A METHOD AND APPARATUS FOR ENVIRONMENT MODELLING & ABSTRACTION OF NETWORK STATES FOR COGNITIVE FUNCTIONS	Márton Kajó (TUM) Benedek Schultz Stephen Mwanje	15%	26 June 2018
NC307147	2018-10E21	26 July 2018	A METHOD AND AN APPARATUS FOR DIAGNOSIS KNOWLEDGE SHARING IN CELLULAR NETWORK SELF-HEALING FUNCTIONS USING CASE-BASED REASONING	Janne Ali-Tolppa Benedek Schultz Márton Kajó (TUM)	33%	26 June 2018

## TECHNISCHE UNIVERSITÄT MÜNCHEN

By:   
 Name: Dr. Alexandros Papaderos  
 Title: Head of Patents & Licences  
 Date: TUM Technical University of Munich

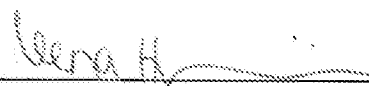
26.02.2019

## NOKIA SOLUTIONS AND NETWORKS OY

By:   
 Name: Per Möller  
 Title: Authorized Signatory  
 Date: Espoo, Finland

Espoo, Finland

11.04.2019

By:   
 Name: Leena Hyvärinen  
 Title: Authorized Signatory  
 Date: 16 April 2019

16 April 2019

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