504646059 11/16/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

Stylesheet Version v1.2

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|-------------------|----------------|
| GRAZIANO BINI | 08/21/2015 |
| FRANCESCO EPIFANI | 09/15/2015 |
| MICHELE LUDOVICO | 09/15/2015 |
| GIUSEPPE MINERVA | 09/15/2015 |
| DANIELA MIRRA | 09/15/2015 |

RECEIVING PARTY DATA

| Name: | TELECOM ITALIA S.P.A. |
|-----------------|-----------------------|
| Street Address: | VIA GAETANO NEGRI, 1 |
| City: | MILANO |
| State/Country: | ITALY |
| Postal Code: | 20123 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15574636 |

CORRESPONDENCE DATA

Fax Number: (703)413-2220

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.

Phone: (703) 413-3000

Email: cstankich@oblon.com

Correspondent Name: OBLON, ET AL.

Address Line 1: 1940 DUKE STREET

Address Line 4: ALEXANDRIA, VIRGINIA 22314

| ATTORNEY DOCKET NUMBER: | 509184US |
|-------------------------|--------------------|
| NAME OF SUBMITTER: | CYNTHIA STANKICH |
| SIGNATURE: | /Cynthia Stankich/ |
| DATE SIGNED: | 11/16/2017 |

Total Attachments: 2

source=509184USAssignment#page1.tif

PATENT REEL: 044152 FRAME: 0403

EPAS ID: PAT4692779

504646059

source=509184USAssignment#page2.tif

PATENT REEL: 044152 FRAME: 0404

| SOL | EJJOINT INVENTION |
|-----|---------------------|
| | (Worldwide Rights |
| | Attorney Docket No. |

ASSIGNMENT AND DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION

WHEREAS I/We, the below named inventor(s), (hereinafter referred to as Assignor(s)), of a claimed invention in an application entitled:

METHOD OF PLANNING OF MOBILE TELECOMMUNICATIONS NETWORKS

WHEREAS, TELECOM ITALIA S.p.A., a corporation of ITALY whose post office address is Via Gaetano Negri, 1, 20123 Milano, Italy (hereinafter referred to as Assignee), is desirous of securing the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to the application for United States Letters Patent on this invention and the Letters Patent to be issued upon this application;

AND, I/WE HEREBY covenant that I/We have the full right to convey the interest assigned by this Assignment, and I/We have not executed and will not execute any agreement in conflict with this Assignment;

AND, I/WE HEREBY further covenant and agree that I/We will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to me/us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

AND, I/WE HEREBY authorize and request that the attorneys having Power of Attorney in this application, insert here in parentheses (Application No., filed) the filing date and application number of said application when known.

As a named inventor below, I hereby declare that: (1) This declaration is directed to the above-identified application; (2) the above-identified application was made or authorized to be made by me; (3) my residence and mailing address are as stated below next to my name; and (4) I believe I am an original inventor or an original joint inventor of a claimed invention in the application. I hereby acknowledge that any wilful false statements made in this declaration are punishable by fine or imprisonment of not more than five (5) years, or both, under section 1001 of Title 18 of the United States Code.

As a below named inventor, I have reviewed and understand the contents of the application, including the claims, and am aware of the duty to disclose to the US PTO all information known to me to be material to patentability as defined in 37C.F.R. § 1.56.

Page 1 of 2

| SOLE/JOINT | INVENTION |
|------------|--------------|
| (World | wide Rights) |
| Attorney | Docket No.: |

Authorization To Permit Access To Application by Participating Offices:

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the above-identified patent application is filed access to the above-KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the above-identified patent application is filed to have access to the above-identified patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the Applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the above-identified application is filed to have access to the above identified patent application.

In accordance with 37CFR 1.14(h)(3), access will be provided to a copy of the above-identified patent application with respect to: 1) the above identified patent application-as-filed; 2) any foreign application to which the above-identified patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the above-identified patent application; and 3) any U.S. application-as-filed from which benefit is sought in the above-identified patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing the Authorization to Permit Access to Application by Participating Offices.

| THE STATE OF FOLL OF STREET A POLONION | | |
|---|------------------------|---------------|
| FULL NAME OF SOLE OR FIRST ASSIGNOR Graziano BINI | ASSIGNOR'S SIGNATURE | DATE |
| | 16202000 Sen) | 21/08/2015 |
| MAILING ADDRESS | | RESIDENCE |
| Telecom Italia S.p.A Via di Val Cannuta, 2 | ROMA, ITALY | |
| 2. FULL NAME OF SECOND ASSIGNOR, IF ANY | ASSIGNOR'S SIGNATURE | DATE |
| Francesco EPIFANI | Shaka Fife. | 15/09/205 |
| MAILING ADDRESS | RESIDENCE | |
| Telecom Italia S.p.A., Via G. Reiss Romoli, 274, 10148 TORINO | | TORINO, ITALY |
| 3. FULL NAME OF THIRD ASSIGNOR, IF ANY | ASSIGNOR'S SIGNATURE | DATE / |
| Michele LUDOVICO | I hell bless | 15/09/2015 |
| MAILING ADDRESS | | RESIDENCE |
| Telecom Italia S.p.A., Via G. Reiss Romoli, 274, 10148 TORINO | | TORINO, ITALY |
| 4. FULL NAME OF FOURTH ASSIGNOR, IF ANY | ASSIGNOR'S SIGNATURE | DATE |
| Giuseppe MINERVA | guschne thrower | 15/09/2015 |
| MAILING ADDRESS | | RESIDENCE |
| Telecom Italia S.p.A., Via G. Reiss Romoli, 274, 10148 TORINO | | TORINO, ITALY |
| 5. FULL NAME OF FIFTH ASSIGNOR, IF ANY | ASSIGNOR'S SIGNATURE / | DATE |
| Daniela MIRRA | Mourel Yens | 75/09/2015 |
| MAILING ADDRESS | | RESIDENCE |
| Telecom Italia S.p.A., Via G. Reiss Romoli, 2 | 274, 10148 TORINO | TORINO, ITALY |
| 6. FULL NAME OF SIXTH ASSIGNOR, IF ANY | ASSIGNOR'S SIGNATURE | DATE |
| | | |
| MAILING ADDRESS | | RESIDENCE |
| | | |
| 7. FULL NAME OF SEVENTH ASSIGNOR, IF ANY | ASSIGNOR'S SIGNATURE | DATE |
| | | |
| MAILING ADDRESS | | RESIDENCE |
| | | |
| | | |