# 506112357 06/17/2020 PATENT ASSIGNMENT COVER SHEET

NEW ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.2

SUBMISSION TYPE:

EPAS ID: PAT6159080

ATURE OF CONVEYAN	CE:	ASSIGNMENT	
CONVEYING PARTY DA	ТА		
		Name	Execution Date
JÉRÉMY RAME			06/17/2020
VIRGINIE JAQUET			06/17/2020
JOËL DELAUTRE			06/17/2020
JEAN-YVES GUEDOU			06/17/2020
PIERRE CARON			06/17/2020
ODILE LAVIGNE			06/17/2020
DIDIER LOCQ			06/17/2020
MIKAEL PERRUT			06/17/2020
RECEIVING PARTY DAT			
	SAFRA		
Street Address:	2 BOUI	LEVARD DU GÉNÉRAL MARTIAL VA	LIN
City:	PARIS		
State/Country:	FRANCE		
Postal Code:	75015		
Name:	ONERA		
Street Address:	CHEMIN DE LA HUNIÈRE		
City:	PLAISE	AU	
State/Country:	FRANC	E	
Postal Code:	91123		
PROPERTY NUMBERS 1	otal: 1		
Property Type		Number	
Application Number:		16763713	
CORRESPONDENCE DA	TA		
Fax Number:			
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		JBarahona@bomcip.com	
Email:		-	
-		BOOKOFF MCANDREWS, PLLC	
Email:		BOOKOFF MCANDREWS, PLLC 2020 K STREET NW	
Email: Correspondent Name:		-	

Address Line 4: WASHINGTON, D.C. 20006				
ATTORNEY DOCKET NUMBER:	00092-0199-00000			
NAME OF SUBMITTER:	DANIEL H. LEE			
SIGNATURE:	/Daniel H. Lee/			
DATE SIGNED: 06/17/2020				
	This document serves as an Oath/Declaration (37 CFR 1.63).			
Total Attachments: 8 source=Assignment#page1.tif source=Assignment#page2.tif source=Assignment#page3.tif source=Assignment#page4.tif source=Assignment#page5.tif				
source=Assignment#page7.tif source=Assignment#page8.tif				

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### Worldwide Assignment & US Declaration (37 CFR 1.63) for utility or design application using an application data sheet (37 CFR 1.76)

As a below named inventor, I hereby declare that, I

inventor Name	Complete Address
RAME, lérémy	c/o Safran Aircraft Engines Pi (AII)I, rond-Point René Ravaud – Réau 77550 MOISSY-CRAMAYEL FRANCE
(Hereinafter referred to as the Assignor) have made	

meremaner referred to as the Assignory have made an invention enti-

Title of Invention (in English)

NICKEL-BASED SUPERALLOY, SINGLE-CRYSTAL BLADE AND TURBOMACHINE

Title of Invention (in French)

for which an application for Letters Patent has been filed in the following country:

***************************************		Serial Number
France	11/14/2017	1760675

The above-identified application(s) was/were made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

AND, WHEREAS,

Corporation Nome	Complete Address
	Chemin de la Hunière 91123 PLAISEAU cedex France

(Hereinafter referred to as the Assignee[s)) is/are 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 aforementioned applications for Letters Patent on this invention and the Letters Patent to be issued upon these applications;

NOW THEREFORE, be it known that for and in consideration of One EURO (ELOG) and other good and valuable consideration, the receipt and sufficiency of which from the Assignee[s] is hereby acknowledged, by these presents, I, the Assigner, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer and set over unto the Assignee[s], its/their lawful successors and assigns, my entire right, title, and interest in and to this invention and these applications, and all divisions, and continuations thereof, and all Letters Patent that may be granted thereon, and all reissues thereof, and all reits to claim priority on these of such applications, and all applications for Letters Patent that may hereafter be filed for this invention in any country and all Letters Patent that may be granted on this invention in any country, and all extensions, renewals, and reissues thereof; and I hereby authorize and reguest the Commissioners of Patents (or other appropriate official whose duty is to issue patents) of the United States, Canada, and any other country, to issue Letters Patent for this invention to the Assignee[s], its/their successors and assigns, in accordance with the terms of this Assignment;

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

AND, I HEREBY further covenant and agree that I will communicate with the Assignee[s], its/their successors and assigns, any facts known to me respecting this invention, testify in any legal proceedings, 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[s], its/their successors or assigns, execute all divisional, continuation, reissue, and reexamination applications, make all rightful oaths and generally do everything possible to aid the Assignee[s], its/their successors and assigns, to obtain and enforce proper patent protection for this invention in any country, it being understood that, irrespective of whether I am in the employ of the Assignee[s] or its/their affiliates, any expense incident to the performance of the obligations of the present paragraph shall be borne by the Assignee[s], its/their successors, and assigns.

This Assignment agreement is effective as of the earliest filing date mentioned above.

AND, I/WE HEREBY acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

IN TESTIMONY WHEREOF, I HAVE SIGNED:

Date	Place	inventor Nome & Signature	Witness Name & Signature
June 17, 2020		RAME, Jérémy	DUBOIS; Anthony
		Bare	- Aller

## Worldwide Assignment & US Declaration (37 CFR 1.63) for utility or design application using an application data sheet (37 CFR 1.76)

As a below named inventor, I hereby declare that, I

Inventor Name	Complete	Address			
JAQUET, Virginie	c/o Safrai	n Aircraft Engines PI (AJI)I,	rond-Point Rene Ravaud – I	léau 77550 MOISSY-CRAMAYEI	. FRANCE
International and a second second second					

(Hereinafter referred to as the Assignor) have made an invention entitled:

Title of Invention (in English)

NICKEL-BASED SUPERALLOY, SINGLE-CRYSTAL BLADE AND TURBOMACHINE

Title of Invention (in French)

for which an application for Letters Patent has been filed in the following country:

Country	Filing Date	Seriol Number
France	11/14/2017	1760675

The above-identified application(s) was/were made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a cloimed invention in the application.

AND, WHEREAS,

Corporation Name	Complete Address
SAFRAN	2 Boulevard Du Général Martial Vales 75015 Paris France
ONERA	Onera29, Avenue De La Division Leclerc 92322 ChatilionFrance, Unknown

(Hereinafter referred to as the Assignce(s)) is/are 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 aforementioned applications for Letters Patent on this invention and the Letters Patent to be issued upon these applications;

NOW THEREFORE, be it known that for and in consideration of One EURO (ELOO) and other good and valuable consideration, the receipt and sufficiency of which from the Assigner(s) is hereby acknowledged, by these presents, I, the Assigner, have sold, assigned, transferred, and set over, and do hereby soil, assign, transfer and set over unto the Assigner(s), its/their lawful successors and assigns, my entire right, title, and interest in and to this invention and these applications, and all divisions, and continuations thereof, and all Letters Patent that may be granted thereon, and all reissues thereof, and all rights to claim priority on these of such applications, and all applications for Letters Patent that may hereafter be filed for this invention in any country and all Letters Patent that may hereafter be filed for this invention in any country and all Letters Patent that may be granted on this invention in any country, and all extensions, renewals, and relissues thereof; and all request the Commissioners of Patents (or other appropriate official whose duty is to issue patents) of the United States, Canada, and any other country, to issue Letters Patent for this invention to the Assignes(s), its/their successors and assigns, in accordance with the terms of this Assignment;

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

AND, I HEREBY further covenant and agree that I will communicate with the Assignee(s), its/their successors and assigns, any facts known to me respecting this invention, testify in any legal proceedings, 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 thie to this invention in said Assignee(s), its/their successors or assigns, execute all divisional, continuation, reissue, and reexamination applications, make all rightful oaths and generally do everything possible to ald the Assignee(s), its/their successors and assigns, to obtain and enforce proper patent protection for this invention in any country, it being understood that, irrespective of whether I am in the employ of the Assignee(s) or its/their affiliates, any expense incident to the performance of the obligations of the present paragraph shall be borne by the Assignee(s), its/their successors, and assigns.

This Assignment agreement is effective as of the earliest filing date mentioned above.

AND, I/WE HERERY acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

IN TESTIMONY WHEREOF, I HAVE SKINED:

Date	Place	inventor Name & Signature	Witness Name & Signature
June 17, 2020	Gennevilliers	JAQUET, Virginie	ZHANG Wen

# Worldwide Assignment & US Declaration (37 CFR 1.63) for utility or design application using an application data sheet (37 CFR 1.76)

As a below named inventor, I hereby declare that, I

inventor Name	Complete Address
DELAUTRE, Joel	c/o Safran Aircraft Engines PI (AJI)I, rond-Point René Ravaud – Réau 77550 MOISSY- CRAMAYEL FRANCE
(Hereinafter referred to as the Assignor) have r	

Title of Invention (in English) NICKEL-BASED SUPERALLOY, SINGLE-CRYSTAL BLADE AND TURBOMACHINE Title of Invention (in French)

for which an application for Letters Patent has been filed in the following country:

Country	Filing Date		9r	
rrance	11/14/2017	1760675		
		80000000000000000000000000000000000000		
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The above-identified application(s) was/were made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

AND, WHEREAS,

Corporation Name	Complete Address
SAFRAN	2 Boulevard Du Général Mantal Valin 75015 Paris France
ONERA	Onera29, Avenue De La Division Lecierc 92322 ChatilionFrance, Unknown

(Hereinafter referred to as the Assignee[s]) is/are 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 aforementioned applications for Letters Patent on this invention and the Letters Patent to be issued upon these applications;

NOW THEREFORE, be it known that for and in consideration of One EURO (©1.00) and other good and valuable consideration, the receipt and sufficiency of which from the Assignee[s] is hereby acknowledged, by these presents, I, the Assigner, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer and set over unto the Assignee[s], its/their lawful successors and assigns, my entire right, title, and interest in and to this invention and these applications, and all divisions, and continuations thereof, and all Letters Patent that may be granted thereon, and all reissues thereof, and all rights to claim priority on these of such applications, and all applications for Letters Patent that may hereafter be filed for this invention in any country and all Letters Patent that may be granted on this invention in any country, and all extensions, renewals, and reissues thereof; and I hereby authorize and request the Commissioners of Patents (or other appropriate official whose duty is to issue patents) of the United States, Canada, and any other country, to issue Letters Patent for this invention to the Assignee[s], its/their successors and assigns, in accordance with the terms of this Assignment;

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

AND, I HEREBY further covenant and agree that I will communicate with the Assignee[s], its/their successors and assigns, any facts known to me respecting this invention, testify in any legal proceedings, 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[s], its/their successors or assigns, execute all divisional, continuation, reissue, and re-examination applications, make all rightful oaths and generally do everything possible to aid the Assignee[s], its/their successors and assigns, to obtain and enforce proper patent protection for this invention in any country, it being understood that, irrespective of whether I am in the employ of the Assignee[s], its/their successors, and assigns.

This Assignment agreement is effective as of the earliest filing date mentioned above.

AND, I/WE HEREBY acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

IN TESTIMONY WHEREOF, I HAVE SIGNED:

(b)	~1809		inventor Name & t		·** Witness N	lame & Sionature	
June 17, 2020	1100	0 1	DELAUTRE, Joel	and the formation of the	Delautre	Caugnal ,	
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### Worldwide Assignment & US Declaration (37 CFR 1.63)

for utility or design application using an application data sheet (37 CFR 1.76)

### As a below named inventor, I hereby declare that, I

Inventor Nome	Complete Address
GUEDOU, Jean-Yves	c/o Safran Aircraft Engines PI (AJI)i, rond-Point René Ravaud – Réau 77550 MOISSY-CRAMAYEL FRANCE
(Herninafter referred to as the Assigned have made	

.....

#### (Hereinafter referred to as the Assignor) have made an invention entitled.

Title of Invention (in English)

#### NICKEL-BASED SUPERALLOY, SINGLE-CRYSTAL BLADE AND TURBOMACHINE

Title of Invention (in French)

### for which an application for Letters Patent has been filed in the following country:

Country	Filing Date	Serial Number
France	11/14/2017	1760675

### The above-identified application(s) was/were made or authorized to be mede by me.

i balizan what I am the original investor or an original joint incentor of a claimed incontion in the application.

### AND, WHEREAS,

Corporation Name	Complete Address
Safran	2 Boulevard Du Général Martial Valin 75015 Paris France
ONERA	Chemin de la Hunière 91123 PLAISEAU cedex France
<b>4</b>	

(Hereinafter referred to as the Assignee[s]) is/are 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 aforementioned applications for Letters Patent on this invention and the Letters Patent to be issued upon these applications;

NOW THEREFORE, be it known that for and in consideration of One EURO (£1.00) and other good and valuable consideration, the receipt and sufficiency of which from the Assignee(s) is hereby acknowledged, by these presents, i, the Assignor, have sold, assigned, transferred, and set over, and do hereby soll, assign, transfer and set over unto the Assignee(s), its/their lawful successors and assigns, my entire right, title, and interest in and to this invention and these applications, and all divisions, and continuations thereof, and all Letters Patent that may be granted thereon, and all reissues thereof, and all rights to claim may be granted on this invention in any country, and all extensions, renewals, and reissues thereof, and all Letters Patent that Patents (or other appropriate official whose duty is to issue patents) of the United States, Canada, and any other country, to issue Letters Patent for this invention to the Assignee(s), its/their successors and assigns, in accordance with the terms of this Assignment;

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

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### IN TESTIMONY WHEREOF, I HAVE SIGNED:

	Date	Place	Inventor Name & Signature	Witness Name & Signature
and the	June 17, 2020	§	GUEDOU, Jean-Yves	wass nume a Signoture
in the second		Villaroche		GUEDOU Françoise
			A ccallen	micon.
				- Arian

### Worldwide Assignment & US Declaration (37 CFR 1.63) for utility or design application using an application data sheet (37 CFR 1.76)

As a below named inventor, I hereby declare that, I

Inventor Name	Complete Address	1
	3 allée Goya 91940 Les Ulis France	]

(Hereinafter referred to as the Assignor) have made an invention entitled:

Title of Invention (in English)

NICKEL-BASED SUPERALLOY, SINGLE-CRYSTAL BLADE AND TURBOMACHINE

Title of Invention (in French)

### for which an application for Letters Patent has been filed in the following country:

 Country	Filing Date	Serial Number
 France	11/14/2017	1760675

The above-identified application(s) was/were made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

#### AND, WHEREAS,

Corporation Name	Complete Address 2 Boulevard Du Général Martial Valin 75015 Paris France
SAFRAN	2 Boulevard Du Général Martial Valin 75015 Paris France
ONERA	Chemin de la Hunière 91123 PLAISEAU cedex France
:	

(Hereinafter referred to as the Assignee[s]) is/are 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 aforementioned applications for Letters Patent on this invention and the Letters Patent to be issued upon these applications;

NOW THEREFORE, be it known that for and in consideration of One EURO (C1.00) and other good and valuable consideration, the receipt and sufficiency of which from the Assignee[s] is hereby acknowledged, by these presents, I, the Assignor, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer and set over unto the Assignee[s], its/their lawful successors and assigns, my entire right, title, and interest in and to this invention and these applications, and all divisions, and continuations thereof, and all Letters Patent that may be granted thereon, and all reissues thereof, and all rights to claim priority on these of such applications, and all applications for Letters Patent that may hereafter be filed for this invention in any country and all Letters Patent that may be granted on this invention in any country, and all extensions, renewals, and reissues thereof; and I hereby authorize and request the Commissioners of Patents (or other appropriate official whose duty is to issue patents) of the United States, Canada, and any other country, to issue Letters Patent for this invention to the Assignee[s], its/their successors and assigns, in accordance with the terms of this Assignment;

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AND, I HEREBY further covenant and agree that I will communicate with the Assignee[s], its/their successors and assigns, any facts known to me respecting this invention, testify in any legal proceedings, 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[s], its/their successors or assigns, execute all divisional, continuation, relissue, and reexamination applications, make all rightful oaths and generally do everything possible to aid the Assignee[s], its/their successors and assigns, to obtain and enforce proper patent protection for this invention in any country, it being understood that, irrespective of whether I am in the employ of the Assignee[s] or its/their affiliates, any expense incident to the performance of the obligations of the present paragraph shall be borne by the Assignee[s], its/their successors, and assigns.

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AND, I/WE HEREBY acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

IN TESTIMONY WHEREOF, I HAVE SIGNED:

Dote	Place	inventor Name & Sig	nonwe	Witness Name & Signature	
June 17, 2020	Otátillen	CARON, Pierre	7	VIDAL - SETHE	NANCE Melez
			. /	NM#	
		se s	Spectrum .	~?XX	Boundary
	L <u></u>	********		¥*	<u></u>

### Worldwide Assignment & US Declaration (37 CFR 1.63) for utility or design application using an application data sheet (37 CFR 1.76)

As a below named inventor, I hereby declare that, I

inventor Name	Complete Address
LAVIGNE, Odile	7 square Dunois 75013 Paris France

### (Hereinafter referred to as the Assignor) have made an invention entitled:

Title of Invention (in English)

### NICKEL-BASED SUPERALLOY, SINGLE-CRYSTAL BLADE AND TURBOMACHINE

Title of invention (in French)

#### for which an application for Letters Patent has been filed in the following country:

Country	Filina Date	
France	11/14/2017	1760675

The above-identified application(s) was/were made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

#### AND, WHEREAS,

Corporation Name	Complete Address
SAFRAN	2 Boulevard Du Général Martial Valin 75015 Paris France
L	
ONERA	Chemin de la Hunière 91123 PLAISEAU cedex France
<u> </u>	

(Hereinafter referred to as the Assignee[s]) is/are 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 aforementioned applications for Letters Patent on this invention and the Letters Patent to be issued upon these applications;

NOW THEREFORE, be it known that for and in consideration of One EURO (£1.00) and other good and valuable consideration, the receipt and sufficiency of which from the Assignee[s] is hereby acknowledged, by these presents, I, the Assignor, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer and set over unto the Assignee[s], its/their lawful successors and assigns, my entire right, title, and interest in and to this invention and these applications, and all divisions, and continuations thereof, and all Letters Patent that may be granted thereon, and all reissues thereof, and all registers for Letters Patent that may hereafter be filed for this invention in any country and all Letters Patent that may be granted on this invention in any country, and all extensions, renewals, and reissues thereof; and I hereby authorize and request the Commissioners of Patents (or other appropriate official whose duty is to issue patents) of the United States, Canada, and any other country, to issue Letters Patent for this invention to the Assignee[s], its/their successors and assigns, in accordance with the terms of this Assignment;

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IN TESTIMONY WHEREOF, I HAVE SIGNED:

Date	Flace	inventor Nome & Signature	Witness Name & Signature
June 17, 2020	Châtillon	LAVIGNE, Odile	V DAL-SETIF Value Holons
		land to	QY

Ref. 5NM012167

### Worldwide Assignment & US Declaration (37 CFR 1.63) for utility or design application using an application data sheet (37 CFR 1.76)

As a below named inventor, I hereby declare that, I

inventor Name	Complete Address		
LOCQ, Didier	2 rue Lucien Arrufat 92350 Le Plessis Robinson France		
(Unreinstear referred to as the Accience) have made an investion entitled:			

(Hereinafter referred to as the Assignor) have made an invention entitled:

Title of Invention (in English)

NICKEL-BASED SUPERALLOY, SINGLE-CRYSTAL BLADE AND TURBOMACHINE

Title of Invention (in French)

for which an application for Letters Patent has been filed in the following country:

Country	Filing Date	Serial Number
France	11/14/2017	1760675

The above-identified application(s) was/were made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

#### AND, WHEREAS,

Corporation Name	Complete Address	
SAFRAN	2 Boulevard Du Général Martial Valin 75015 Paris France	
ONERA	Chemin de la Hunière 91123 PLAISEAU cedex France	
Į		

(Hereinafter referred to as the Assignee(s)) is/are 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 aforementioned applications for Letters Patent on this invention and the Letters Patent to be issued upon these applications;

NOW THEREFORE, be it known that for and in consideration of One EURO (€1.00) and other good and valuable consideration, the receipt and sufficiency of which from the Assignee[s] is hereby acknowledged, by these presents, t, the Assignor, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer and set over unto the Assignee[s], its/their lawful successors and assigns, my entire right, title, and interest in and to this invention and these applications, and all divisions, and continuations thereof, and all Letters Patent that may be granted thereon, and all reissues thereof, and all registers to claim priority on these of such applications, and all applications for Letters Patent that may hereafter be filed for this invention in any country and all Letters Patent that may be granted on this invention in any country, and all extensions, renewals, and reissues thereof; and in request the Commissioners of Patents (or other appropriate official whose duty is to issue patents) of the United States, Canada, and any other country, to issue Letters Patent for this invention to the Assignee[s], its/their successors and assigns, in accordance with the terms of this Assignment;

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

AND, I HEREBY further covenant and agree that I will communicate with the Assignee[s], its/their successors and assigns, any facts known to me respecting this invention, testify in any legal proceedings, 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[s], its/their successors or assigns, execute all divisional, continuation, reissue, and reexamination applications, make all rightful oaths and generally do everything possible to aid the Assignee[s], its/their successors and assigns, to obtain and enforce proper patent protection for this invention in any country, it being understood that, irrespective of whether I am in the employ of the Assignee[s] or its/their affiliates, any expense incident to the performance of the obligations of the present paragraph shall be home by the Assignee[s], its/their successors, and assigns.

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#### IN TESTIMONY WHEREOF, I HAVE SIGNED:

Section	Date	Place		Witness Name & Signature
	June 17, 2020	Châtillon	LOCQ, Didier	VIDAL-SETIE Maler Holine
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1			and the second	<u> </u>

### Worldwide Assignment & US Declaration (37 CFR 1.63) for utility or design application using an application data sheet (37 CFR 1.76)

As a below named inventor, I hereby declare that, I

	Complete Address
PERRUT, Mikael	51 rue du Général Leclerc 92130 issy les Moulineaux France
	*

(Hereinafter referred to as the Assignor) have made an invention entitled:

Title of Invention (in English)

### NICKEL-BASED SUPERALLOY, SINGLE-CRYSTAL BLADE AND TURBOMACHINE

Title of Invention (in French)

#### for which an application for Letters Patent has been filed in the following country:

Country	Filing Date	Serial Number
 France	11/14/2017	1.760675

The above-identified application(s) was/were made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

#### AND, WHEREAS,

Corporation Name	Complete Address
SAFRAN	2 Boulevard Du Général Martial Valin 75015 Paris France
ONERA	Chemin de la Hunière 91123 PLAISEAU cedex France

(Hereinafter referred to as the Assignee[s]) is/are 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 aforementioned applications for Letters Patent on this invention and the Letters Patent to be issued upon these applications;

NOW THEREFORE, be it known that for and in consideration of One EURO (€1.00) and other good and valuable consideration, the receipt and sufficiency of which from the Assignee[s] is hereby acknowledged, by these presents, I, the Assignor, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer and set over unto the Assignee[s], its/their lawful successors and assigns, my entire right, title, and interest in and to this invention and these applications, and all divisions, and continuations thereof, and all Letters Patent that may be granted thereon, and all reissues thereof, and all rights to claim priority on these of such applications, and all applications for Letters Patent that may hereafter be filed for this invention in any country and all Letters Patent that may be granted on this invention in any country, and all extensions, renewals, and reissues thereof; and I hereby authorize and request the Commissioners of Patents (or other appropriate official whose duty is to issue patents) of the United States, Canada, and any other country, to issue Letters Patent for this invention to the Assignee[s], its/their successors and assigns, in accordance with the terms of this Assignment;

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

AND, I HEREBY further covenant and agree that I will communicate with the Assignee[s], its/their successors and assigns, any facts known to me respecting this invention, testify in any legal proceedings, 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[s], its/their successors or assigns, execute all divisional, continuation, relssue, and reexamination applications, make all rightful oaths and generally do everything possible to aid the Assignee[s], its/their successors and assigns, to obtain and enforce proper patent protection for this invention in any country, it being understood that, irrespective of whether I am in the employ of the Assignee[s] or its/their affiliates, any expense incident to the performance of the obligations of the present paragraph shall be borne by the Assignee[s], its/their successors, and assigns.

This Assignment agreement is effective as of the earliest filing date mentioned above.

AND, I/WE HEREBY acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

IN TESTIMONY WHEREOF, I HAVE SIGNED:

Date	Floce	inventor Name & Signature	Witness Name & Signature
June 17, 2020	Châtillon		VOAL-SETH Mary Adama
			Atte

### PATENT REEL: 052969 FRAME: 0766

### **RECORDED: 06/17/2020**