COMPLETE

Exploitation Plan

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COMPLETE – Exploitation Plan				
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1.0	05/09/2017	16		First emission

1. REFERENCES

1.1. Applicable Documents

[AD1] Grant Agreement-675675-COMPLETE

[AD2] COMPLETE_675675_ConsortiumAgreement

1.2. List of acronyms

Acronym	Meaning
CA	Consortium Agreement
COMPLETE	Cloud-MicroPhysics-Turbulence-Telemetry: An inter-multidisciplinary training network for enhancing the understanding and modeling of atmospheric clouds
EI	Exploitation and IP committee
EM	Exploitation Manager
ESR	Early Stage Researcher
GA	Grant Agreement
IP	Intellectual Property

2. INTRODUCTION

This document represents the deliverable 8.3 - “Exploitation plan” of the Marie Skłodowska-Curie Actions (MSCA) - Innovative Training Networks (ITN) H2020-MSCA-ITN-2015 COMPLETE 657657 project (hereinafter “COMPLETE”).

This is the first issue of the plan. The plan will be updated annually by the EI (Exploitation and IP Committee). The EI is led by an Exploitation Manager (EM) and will meet on an ad-hoc basis as required. It will monitor IP and lead exploitation and dissemination planning. The EI will also advise ESRs on IP issues and COMPLETE dissemination.

2.1. Project Overview

Clouds are the largest source of uncertainty in weather prediction, climate science, and remain a weak link in modeling atmospheric circulation. This is rooted in the fact that clouds depend on the physical and chemical processes over a huge range of scales, from the collisions of micron-sized droplets and particles to the airflow dynamics on the scales of thousands of meters. Since ambiguities related to representation of clouds in climate models prevail, explorative observations are still needed. The challenge is on the one hand to establish connections across this range of scales, from aerosol and particle microphysics to macro-scale turbulent dynamics in clouds, and on the other to combine knowledge and training across vastly different scientific and engineering disciplines.

The aim of COMPLETE is to develop an inter/multidisciplinary training network that will prepare high-potential early stage researchers (ESRs) with both scientific and industrially-oriented skills that will advance our understanding in these multi-scale complex natural phenomena. COMPLETE will vastly improve Europe’s position as a global leader in technology, science and innovation to address climate change challenges.

The training programme will combine the scientific investigation of specific aspects of cloud physics and related turbulent dynamics with training in key professional skills. This comprises an exceptional experimental programme that includes field experiments, laboratory and numerical simulations, the design and development of advanced fast temperature probes, velocity MEMS and innovative atmospheric mini radio-probes; all aimed at the production of new, Lagrangian based, cloud fluctuation datasets, required to reduce the fragmentation of results and increase the knowledge in this field COMPLETE is aimed at developing an inter/multidisciplinary training network that will prepare high-potential early stage researchers (ESRs) with both scientific and industrially-oriented skills that will advance our understanding in these multi-scale complex natural phenomena.

2.2. Rights and obligations of the members of the consortium

The Grant Agreement (GA) and the Consortium Agreement (CA) sets out the rules for the ownership, the transfer, the dissemination and the licensing of the results. They also describe the Cooperation Obligations and the Access Rights among the Partners.

Generally, results are owned by the Party that generates them. In case more partners have a joint ownership of results, the CA sets out the rules to

manage it.

Intellectual Property Rights issues are defined in the CA. The Supervisory Board will evaluate and explore possible Intellectual Property commercial exploitation.

Attachment I of the CA lists the Background information needed by each party for the implementation of the Project. It is there stated that for each and every Party, at the best of its knowledge, “no data, know-how or information” of any other Party shall be needed for the implementation of the project.

3. EXPLOITATION, DISSEMINATION AND COMMUNICATION OF KNOWLEDGE

An efficient dissemination of the results gained in a Research Project is a fundamental activity for the Project's success. This is particularly true in this MSCA-ITN project, where the ESRs are requested to also develop their "industrial" and "commercial" skills.

This exploitation plan sets out the details of the types of dissemination activities to be undertaken during the project lifetime. The exploitation plan will capture all dissemination and exploitation activities which are planned and which have been undertaken by the project partners.

The exploitation, understood as commercialization, of the new technologies developed in the project, is described in the deliverable D1.6.

The following paragraphs list the different channels through which the COMPLETE Consortium will exploit its results.

3.1. Web site

A project web site has been created at the following link: https://www.complete-h2020network.eu/ It includes different sections, like: News, Team, Research project, Training, Dissemination, Wiki, Contacts. The web site will be constantly updated with results, news and events of the project. It will be the main tool to collect all the info of COMPLETE.

ESRs will publish their CV and their research project on the web site, as well as the results of their research.

Here below a screen-shot of the site.

COMPLETE ITN - ETN NETWORK

EU Horizon 2020

News Team Research project Training Dissemination Wiki Contacts

Cloud-MicroPhysics-Turbulence-Telemetry is a shared inter-multidisciplinary research training environment for enhancing the understanding and modeling of atmospheric clouds. [Abstract]

LATEST NEWS

1ST MAIN NETWORK-WIDE TRAINING EVENT

June 15, 2017

PROJECT KICK-OFF MEETING

June 21, 2016

3.2. COMPLETE training schools and workshops

COMPLETE foresees the organization of 8 main events, in the form of training schools, workshops, a Euromech Colloquium and a final conference.

The list of the events organized by the network is given in the table below. Detailed programme and schedule of the events will be available on the COMPLETE web site.

No.	Location	Event Type	Schedule	Topics	Audience	Status
1. **M13** **(19-22 June 2017)**	**Location:** Torino **Organizer:** POLITO	**Student's Kick-Off Meeting** **1st Workshop**	Day 1	ESR students Board kick-off meeting Introduction to COMPLETE project (ESRs)	ETN	Completed
			Day 1, afternoon	Beneficiaries present their research activities Dissemination Board and Scientific Board meeting	Open	Completed
	Organizer: UW	**1st Training School**	Day 2	Atmospheric turbulence, convection and clouds	Open	Completed
	Organizer: I3P		Day 3-4	Entrepreneurship and business planning, Application of the Business Canvas Model	Open	Completed
19 June 2017	**Torino**	**1st Annual Meeting**				Completed

No.	Location	Event Type	Schedule	Topics	Audience	Status
2. **Early 2018** **(Jan/Feb 2018)**	**Location**: La Reunion c/o Laboratoire de l'Atmosphère et des Cyclones (LACY) – CNRS *** to be confirmed ***	**Progress Meeting**		1. ESR presentations, 2. ESR Student Board, 3. Dissemination Board meeting, 4. All participants meeting Visiting facilities for the infield observation and laboratory experimentations http://osur.univ-reunion.fr/observations/osu-r-stations/opar/ (contact person: J.P. Cammas)	ETN	Planned
3. **M24** **(May 2018)**	**Location**: Paris **Organizer**: LMD, ISAC	**1st Spring School on Cloud Parametrization in Climate Models** Invited speaker: A Lanotte (CNR-ISAC)	Day 1 Day 2	Fundamental elements of dynamics and physics of climate. The role of clouds in the climate system. Afternoon: ESR presentations. Modelling climate: Structure of current models of the atmosphere, ocean and of the climate system. Weather prediction, climate simulations. Dynamics and physical parameterization	Open Open	Planned
			Day 3	The physics of convection and its parameterizatoin in climate models. Observing systems. Afternoon: ESR presentations.	Open	Planned
			Day 4	The physics of clouds. Radiation, dynamics, microphysics. Physical parameteriation of clouds. Observing systems	Open	Planned

No.	Location	Event Type	Schedule	Topics	Audience	Status
			Day 5	The frontier: errors in climate models, incertitude in observing systems. Afternoon: ESR presentations.	Open	Planned
May 2018	**Paris**	**2nd Annual Meeting** **Mid Term Report Meeting**				Planned
4. **M26** **(July 2018)**	**Location**: Zugspitze (UFS) **Organizer**: MPG,MPIM **Organizer**: ENV	**2nd Summer School on Microphysics and dynamics of clouds** Invited speaker : A.Pumir (ENS,Lyon)	Day 1	Inertial particles. Droplet collision models. Afternoon: ESR presentations.	Open	Planned
			Day 2	Cloud Microphysics and meso-scale dynamic.	Open	Planned
			Day 3	Applied Boundary Layer Meteorology. Afternoon: ESR presentations.	Open	Planned
			Day 4	Application to Meteorology and Climatology	Open	Planned
			Day 5	Remote sensing of atmospheric data. Satellite navigation. Afternoon: ESR presentations.	Open	Planned
	Organizer: BAYFOR		Day 6	1. Project Management 2. EU bid writing	ETN	Planned
5. **M29** **(Sept 2018)**	**Location**: Warsaw **Organizer**: UW **Organizer**: MPG	**3rd Workshop /Training School**	Day 1	1. ESR presentations 2. Outreach and public engagement.	ETN	Planned
			Day 2	Cloud microphysivs	ETN	Planned
			Day 3	Aerosol and cloud chemistry (aerosol processing by clouds)	ETN	Planned

No.	Location	Event Type	Schedule	Topics	Audience	Status
			Day 4	Langrangian experimental measurements in turbulence	ETN	Planned
			Day 5	1. Control sensor engineering. 2. Atmospheric radiosondes and LiDAR technology	ETN	Planned
6. **M36** **(Summer 2019)**	**Location**: (Göttingen) or Valsavarenche **Organizer**: MPG,POLITO	**3rd Spring School on Small-scale Turbulence in clouds** Invited speaker: Z.Warhaft (Cornell)	Day 1	Eddy structures and intermittency in fine-scale turbulence. Afternoon: ESR presentations.	Open	Planned
			Day 2	Strongly anisotropic turbulence structure and cascade: stably stratified and rotating flows	Open	Planned
			Day 3	Correlation between small-scale velocity, temperature, vapor and liquid water concentration fluctuations. Afternoon: ESR presentations.	Open	Planned
			Day 4	Physical models for small--scale structures.	Open	Planned
			Day 5	Active versus passive scalar turbulence. Afternoon: ESR presentations.	Open	Planned
May 2019	**Göttingen**	**3rd Annual Meeting**				
7. **M40** **(Sept 2019)**	**Location**: London **Organizer**: ICL	**4th Workshop**	Day 1	1. ESR presentations 2. All participants meeting	ETN	Planned
			Day 2	Big Data Analysis and high performance computing	ETN	Planned

No.	Location	Event Type	Schedule	Topics	Audience	Status
			Day 3	1. Data mining and Data Sharing 2. Exchange between numeric and experimental data	ETN	Planned
	Organizer: TAU		Day 5	1. MEMS technology, 2. Micro hot/cold wire/film probes for small scale turbulence ***	ETN	Planned
	Organizer: RAMOT		Day 4	Intellectual property rights in the technology transfer	ETN	Planned
8. M48 (May 2020)	**Location**: Torino **Organizer**: POLITO	**Euromech Colloquium on Cloud Dynamics**	Day 1	Session1. Warm boundary layer clouds. Session 2: Physics of stratocumulus top: turbulence, mixing, entrainment	Public	Planned
			Day 2	Session 3: Numerical models for moist convection, Session 4: Aerosol-Cloud interaction.	Public	Planned
			Day 3	Session 5: Session 5: Cloud droplets and precipitation.	Public	Planned
	Organizer: UW	**Final meeting**	Day 4	1. ESR Presentations, 2.Student Board, 3. All participants meeting	ETN	Planned
May 2020	**Torino**	**4th Annual Meeting (final report)**				Planned

3.3. Conferences

ESRs will participate at International Conferences to present their results and to grow their skills in communication. On average it is foreseen that each ESR will participate to two conferences. The table below gives a list of the conferences, where COMPLETE ESRs' participation is foreseen. This table will

be updated in the next issues of the Exploitation Plan.

Name	Date	Location	Web site	Status
IEEE – APWC '17	11-15 September 2017	Verona, Italy	http://www.iceaa.net/j3/	Presentation accepted
European Geosciences Union General Assembly 2018	8-13 April 2018	Wien, Austria	https://www.egu2018.eu/	Planned
12th European Fluid Mechanics Conference	09-13 September 2018	Wien, Austria	https://www.efmc12.conf.tuwien.ac.at/	Planned
15th Conference on Cloud Physics	Tbd	Tbd	Tbd	Planned
17th European Turbulence Conference	Tbd	Tbd	Tbd	Planned
Euromech Colloquia organized by the consortium	Tbd	Tbd	Tbd	Planned
IEEE – APWC '19	Tbd	Tbd	Tbd	Planned
European Geosciences Union – General Assembly	2019/2020	Tbd	Tbd	Planned
American Geophysical Union - Fall/Spring meetings	2017/2020	Tbd	Tbd	Planned
ESA-AMICSA conferences	2017/2020	Tbd	Tbd	Planned
IEEE conferences, workshops and symposia	2017/2020	Tbd	Tbd	Planned
Conferences by the IEEE-Geoscience and Remote Sensing Society	2017/2020	Tbd	Tbd	Planned
ARM meetings	2017/2020	Tbd	Tbd	Planned

3.4. Publications

ESR will establish a publication record that is vital to demonstrate at the international level the quality of their work with potential employers or collaborators. These publications will be a strong tool to exploit in the scientific community the knowledge developed in the project. On average, working with supervisors, each ESR is expected to be author of 1-2 papers in international, peer-reviewed journals, like J.Atm.Sci, J. Geophys. Res., Quart. J. Roy. Meteor. Soc., J.Fluid Mech., Phys.Fluids, Phys.Rev.Lett., Physica D, J. of Turbulence, IEEE Transactions, Comp. Phys, Comm.

The table below reports the list of publications submitted in the frame of the COMPLETE project. It will be updated in the next issues of the Exploitation Plan.

Authors	Title	Journal	Issue, page	Status
T. C. Basso, M. Iovieno, S. Bertoldo, G. Perotto, A. Athanassiou, F. Canavero, G. Perona, D. Tordella	Disposable radiosondes for tracking Lagrangian fluctuations inside warm clouds	IEEE-APS APWC 2017 proceedings	Tbd	Accepted

3.5. Events with schools, with general audience and mass media

In order to raise the scientific awareness among the European public on the climate science, COMPLETE will communicate to the general public its objectives and results. This will be done through a series of initiatives like:

- Events with schools (8-18 years old students)
- Presentations at science fairs such as the British Science Festival, Open University Days, Researchers Night and Science Cafés
- workshops and presentations organized in collaboration with regional agencies for environmental protection and monitoring (UFS, Regione Piemonte, ARPA).

Mass Media will also be exploited by the consortium to disseminate the knowledge generated by the project and to reach a large audience in the public. It is foreseen to publish articles in popular science column in regional and national newspapers, as well as to prepare mini-shows and to broadcast them

through the University radios like, for example, the Imperial College Radio and OndeQuadre at POLITO,

The table below will be updated with the list of such events

Event	Date	Location	Audience	Status

3.6. Social media

The COMPLETE consortium has decided to engage a professional for the development and the management of dedicated Facebook and Twitter accounts. All the ESRs and the Consortium members will be requested to share contents through these accounts; moreover, the engagement of a professional will guarantee a high level of activity on the social media and the capability to keep the accounts updated and followed by a large number of users.

The next updates of the plan will report details on the accounts creation and on the social media activity they generate.