Contract Awards under Copernicus Delegation Agreement 1 January 2015 to 31 December 2015¹

ITT	Title	Date of award	Name of recipient	Address of recipient	Amount of Framework Agreement (EURO)	End date of Framework Agreement	Amount of Service Contract Awarded (EURO)
CAMS_50	Regional production	18 Nov 2015	Meteo-France	73 avenue de Paris 94165 Saint Mande Cedex France	4,999,647.30	30 Sep 2018	2,194,147.33

Description:

This contract is for the operational delivery of the European-scale air quality component of CAMS. The production must be based upon a geographically distributed ensemble of between five and ten individual models and a central processing function to deliver three streams:

• on a daily basis, hourly analyses and forecasts up to +96h;

• with a delay of a few weeks (in order to maximise the number of observations) interim re-analyses will be produced daily with systems frozen in their configuration of January 1st every year;

• with a delay of up to two years (due to the delay in getting fully validated data), re-analyses will be processed with frozen systems, which are only updated every few years.

All the individual assimilation and forecast systems must be mature, well validated and operated by their main developers. This aspect is essential so that the operators can directly maintain a steady flow of changes to the numerical codes, in order to include new research developments, to make corrections reflecting findings from verification/validation, and to implement approved changes requested by users. Acquisition of data, monitoring of the production, verification of the outputs, data services and support to the users are also included in this contract.

CAMS_72	Solar radiation	15 Dec 2015	Deutsches Zentrum	Linder Hohe,	1,399,601.00	31 Dec 2018	517,496.00
	products		e.V. fur Luft- und	51147 Koln			
			Raumfahrt	Germany			

Description:

This contract is to deliver the main CAMS products related to solar radiation: global (clear sky) and multicontinental (Europe, Africa, the Middle East and Asia as defined by the METEOSAT field of view to take into account clouds) solar irradiance information. Time series based on an on-request access to long-term data sets and several days' near real-time information are also made available to users, targeting particularly solar energy applications. Finally, this contract provides routinely an evaluation of the quality of the products delivered as well as of the global UV irradiance monitoring and forecasts produced by ECMWF.

¹ One or more Service Contracts may be awarded under a Framework Agreement. This list covers Service Contracts awarded in the period mentioned above. The relevant Framework Agreement may have been awarded in a previous period.

ITT	Title	Date of award	Name of recipient	Address of recipient	Amount of Framework Agreement (EURO)	End date of Framework Agreement	Amount of Service Contract Awarded (EURO)
CAMS_73	Greenhouse gases fluxes	16 Dec 2015	Commissariat a l'energie atomique et aux energies alternatives	Batiment Le Ponant D 25 rue Leblanc 75015 Paris France	799,999.89	30 Nov 2018	353,030.63

Description:

This contract is for providing quantitative estimates of net surface fluxes of greenhouse gases, which are key drivers of the Earth's climate evolution. Groundbased and now satellite remote-sensing observations allow these to be monitored. The data provided so far by the pilot projects leading to CAMS have delivered time-series of CH4, CO2 and N2O surface flux fields of high quality. This contract is for extending the time series, both forwards and backwards (as far as possible) in time, while maintaining their quality at the highest international standard. Periodically, the contractor will reprocess the whole period in order to reflect improvements in spatial resolution as well as in modelling and data assimilation techniques used for the atmospheric flux inversions. The documentation of associated errors and comparison with independent observations as well as with main competing international products also forms part of the activities.

CAMS_84	Global & regional a posteriori	2 Nov 2015	Royal Netherlands Meteorological	Utrechtseweg 297, 3731 GA De Bilt,	2,824,999.00	30 Sep 2018	1,222,259.00
	validation		Institute	The Netherlands			

Description:

This contract is for products validation activities in support of CAMS users. The main outputs of these activities will be 3-monthly validation reports for the near-real-time global products. Validation reports will also be delivered for candidate upgrade global production chains as well as for the CAMS reanalysis. This contract will also provide daily plots and quality monitoring statistics of the near-real-time global production, which will be integrated in the CAMS website and will be easily accessible together with the products from the CAMS catalogue. While the coverage will be global, specific efforts will be targeted at validation over the Arctic and the Mediterranean areas. Validation of the regional air quality products in the free troposphere and the interface between the global and regional systems will also be in scope of these activities.

ITT	Title	Date of award	Name of recipient	Address of recipient	Amount of Framework Agreement (EURO)	End date of Framework Agreement	Amount of Service Contract Awarded (EURO)
CAMS_94	User interaction activities	7 Dec 2015	Deutsches Zentrum e.V. fur Luft- und Raumfahrt	Linder Rohe, 51147 Koln Germany	699,962.86	31 Dec 2018	249,210.33

Description:

This contract supports the management of the relationship between CAMS and its users, with the overarching goal to ensure the best possible uptake of the products by the users and to their full satisfaction. More specifically, the activities include:

• developing, maintaining and populating the CAMS User Requirements Database (URDB) and supporting ECMWF in the maintenance of the Requirement Analysis Document (RAD);

• organising user workshops and establishing additional user feedback mechanisms;

• monitoring continually the Service Product Portfolio against the Requirement Analysis Document;

• providing statistical analyses of CAMS users.

C3S_441 General description – refers to Lots below

Description:

ECMWF as the Entrusted Entity for the Copernicus Climate Change Service (C3S) has awarded contracts for a proof-of-concept aiming at demonstrating the value chain from earth observation and model outputs to actionable climate information in different Sectors. This Sectoral Information System (SIS) will translate and combine climate information from the Climate Data Store of the C3S and other sources to support users acting in specific sectors. Customized information products in the form of climate change indicators and ancillary information pertinent to the sectors and various EU sectoral policies will be disseminated via the Climate-ADAPT platform and the C3S data portal as it develops. The contractors will take full advantage of existing capabilities and products in European Member States and Commission Services. This proof-of-concept will require large sectoral user engagement, and demonstration of the value chain from earth observation and model simulations to tailored climate indicators addressing specific sectors, based on case studies. The focus will be over Europe. The contractors will bring together both providers and users to operate each component. The providers will be expected to deliver data products and information services and to engage with (and develop) the corresponding user communities across public and private sectors.

ITT	Title	Date of award	Name of recipient	Address of recipient	Amount of Framework Agreement (EURO)	End date of Framework Agreement	Amount of Service Contract Awarded (EURO)
C3S_441 Lot 1	Sectoral Information System - Proof of concept - Water	16 Nov 2015	Centre for Ecology & Hydrology, Natural Environment Research Council	Maclean Building, Benson Lane, Crowmarsh Gifford, Wallingford, Oxfordshire. OXIO 8BB United Kingdom	1,598,237.09	31 Dec 2017	927,508.00

Lot 1 Description:

Water is essential for human life, nature and the economy. It is permanently renewed but it is also finite and cannot be made or replaced with other resources. Freshwater constitutes only about 2 % of the water on the planet and competing demands may lead to an estimated 40 % global water supply shortage by 2030. As climate change warms the atmosphere and alters the hydrological cycle, we will continue to witness changes to the amount, timing, form, and intensity of precipitation and the flow of water in watersheds, as well as the quality of aquatic environments. The sectoral information system in water will consider all aspects of water resource and risk management in general, but focus specifically on essential water related climate variables which are under particular pressure and important to sectoral users.

C3S_441 Lot 1	Sectoral	16 Nov 2015	Swedish	601 76 Norrköping,	1,599,996.00	31 Jan 2018	766,044.00
	Information		Meteorological and	Sweden			
	System - Proof of		Hydrological				
	concept - Water		Institute				

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ITT	Title	Date of award	Name of recipient	Address of recipient	Amount of Framework Agreement (EURO)	End date of Framework Agreement	Amount of Service Contract Awarded (EURO)
C3S_441 Lot 2	Sectoral Information System - Proof of concept - Energy	16 Dec 2015	Commissariat a l'energie atomique et aux energies alternatives	Batiment Le Ponant D 25 rue Leblanc 75015 Paris France	1,599,399.52	31 Mar 2018	1,081,268.45

Lot 2 Description:

In the energy sector, on national or international levels, efforts have been put into addressing scientific and technological challenges in implementing efficient ways to produce and manage sources of energy. The resilience and efficiency of energy systems is strongly influenced by the weather and climate environment. Climate variables and ancillary information is key to address energy industry challenges in the most effective and innovative way. Changes in temperature, precipitation, sea level, and the frequency and severity of extreme weather events will likely affect how much energy is produced, delivered, and consumed. The sectoral information system in energy will consider climate change indicators and ancillary information important to the totality of all of the industries involved in the production and sale of energy, including fuel extraction, manufacturing, refining and distribution involving relevant users.

C3S_441 Lot 2	Sectoral	27 Nov 2015	University of East	Norwich Research Park	1,599,983.36	31 Jan 2018	1,040,521.82
	Information		Anglia	Norwich			
	System - Proof of			NR4 7TJ			
	concept - Energy			United Kingdom			

Lot 2 Description:

In the energy sector, on national or international levels, efforts have been put into addressing scientific and technological challenges in implementing efficient ways to produce and manage sources of energy. The resilience and efficiency of energy systems is strongly influenced by the weather and climate environment. Climate variables and ancillary information is key to address energy industry challenges in the most effective and innovative way. Changes in temperature, precipitation, sea level, and the frequency and severity of extreme weather events will likely affect how much energy is produced, delivered, and consumed. The sectoral information system in energy will consider climate change indicators and ancillary information important to the totality of all of the industries involved in the production and sale of energy, including fuel extraction, manufacturing, refining and distribution involving relevant users.

ITT	Title	Date of award	Name of recipient	Address of recipient	Amount of Framework Agreement (EURO)	End date of Framework Agreement	Amount of Service Contract Awarded (EURO)
C3S_441 Lot 3	Sectoral Information System: Proof of Concept – any other area	8 Dec 2015	Telespazio VEGA UK Ltd	350 Capability Green, Luton, Bedfordshire. LUI 3LU United Kingdom	1,531,183.00	31 Dec 2017	823,547.87
Lot 3 Descriptio	n:						
infrastructure. (Climate information wi	ill be relevant to e	each of these sectors to	th as agriculture and forest a different degree and requence addressing the agricult	uire specific indicat		
C3S_441 Lot 3	Sectoral Information System - Proof of concept- any other area	20 Nov 2015	Swedish Meteorological and Hydrological Institute	601 76 Norrköping, Sweden	1,599,949.00	31 Jan 2018	917,298.05
Lot 3 Descriptio							
infrastructure. (Climate information with	ill be relevant to e	each of these sectors to	th as agriculture and forest a different degree and req eme as an approach for mu 250 Brook Drive	uire specific indicat	ors as well as and	cillary
	Information System: Proof of Concept – any other area	5 Dec 2015		Green Park, Reading RG26UA United Kingdom	1,000,000.00	51 juli 2010	1,001,010.00
Lot 3 Descriptio	n:						
infrastructure. (Climate information wi	ill be relevant to e	each of these sectors to	ch as agriculture and forest a different degree and req eme addressing the insurar	uire specific indicat		

ITT	Title	Date of award	Name of recipient	Address of recipient	Amount of Framework Agreement (EURO)	End date of Framework Agreement	Amount of Service Contract Awarded (EURO)
C3S_433 Lot 1	General description	- refers to contra	cts below				
Description:							
use as part of a r 1.10.2015 to 31. from 1.1.2017 to be the subject of	nulti-model seasonal f 12.2017. This period i 31.12.2017. Starting a separate tender pro	orecast system. C s separated into 2 in January 2018, (cess for selecting	ontracts have been ne 2 phases: a Proof of Co C3S should move to a f up to 4 or 5 providers	3S) has awarded contracts f gotiated with several suppli- ncept (POC) phase from 1.1 fully operational phase, for v s. ECMWF is contracting with red product from the start of	iers of seasonal fore 0.2015 to31.12.201 which the procurem h 2 experienced pro	ecast data, to cove 6, and a Pre-Ope eent of seasonal f	er the period rational phase orecast data will
C3S_433 Lot 1	Seasonal Forecasts – Core Providers	18 Dec 2015	Meteo-France	73 avenue de Paris 94165 Saint Mande Cedex France	1,454,786.06	31 Mar 2018	716,233.16
Lot 1 Description	n:	I	I				1
Specified Data st similar data pro Providers will b implement a nex	cream from an enhance vided by ECMWF, will e funded to provide bo	ed forecasting sys be used for initial th for the immed olution forecastin	tem before the end of l development of the S iate provision of the sp	pecified Data stream from the contract period. The Spe easonal Forecasts services of pecified data from the start of hensive re-forecast data. A	ecified Data from th of C3S during the PC of the project, and t	ese Providers, to OC phase of the p o enable each pro	ogether with roject. The Core ovider to
C3S_433 Lot 1	Seasonal Forecasts – Core Providers	17 Dec 2015	Met Office	FitzRoy Road Exeter, Devon EX1 3PB United Kingdom	1,699,999.76	28 Feb 2018	941,929.50
Lot 1 Description	n:	1	1		1		1
Specified Data st similar data pro Providers will be implement a nex	rream from an enhance vided by ECMWF, will e funded to provide bo	ed forecasting sys be used for initial th for the immed olution forecastin	tem before the end of l development of the S iate provision of the sp	pecified Data stream from the contract period. The Speeasonal Forecasts services of pecified data from the start of hensive re-forecast data. A	ecified Data from th of C3S during the PC of the project, and t	ese Providers, to OC phase of the p o enable each pro	ogether with roject. The Core ovider to

Contract ID	Title	Date of award	Name of recipient	Address of recipient	Amount of contract (EURO)	End date of contract
RFQ232B	Organisation of a workshop on climate communications in Paris	8 May 2015	The Desk	3 avenue Andre Chevrillon 92210 SAINT CLOUD France	34,850.00	completed
RFQ229A	Copernicus Websites Development and other Activities	3 Jun 2015	COMMPla	Via Nino Bixio 25 56125 Pisa Italy	150,000.00	31 May 2017
Comms 1	Production of animations and presentation	7 Jul 2015	Carbon Visuals Ltd	Highleigh House Dawlish Road Teignmouth TQ14 8TL United Kingdom	26,300.00	completed
RFP235	Information campaign for ECMWF Copernicus Services	9 Sep 2015	Madano	United Kingdom	100,000.00	31 March 2016
RFP235	Information campaign for ECMWF Copernicus Services	9 Sep 2015	The Desk	3 avenue Andre Chevrillon 92210 SAINT CLOUD France	100,000.00	31 March 2016
RFQ232A	Organisation of a workshop on climate communications in Brussels	13 Nov 2015	Sustainability Consult	9 Rue Emmanuel Van Driessche 1050 Brussels Belgium	30,000.00	completed
MSX-3.01	SC.1 for the provision of radiation services	1 July 2015	ARMINES	60 boulevard Saint Michel 75272 Paris cedex 6 France	26,250.00	completed
MSX-5.01	SC.1 for the provision of VAL & GRG	1 July 2015	Belgisch Instituut voor Ruimte Aeronomie - Institut d'Aeronomie Spatiale de Belgique	3, avenue Circulaire, 1180 Brussels, Belgium	26,422.00	completed
MSX-7.01	SC.1 for the provision of GHG, AER & VAL	1 July 2015	Centre National de la Recherche Scientifique	Rue Michei-Ange 3, PARIS 75794, France	43,316.00	completed
MSX-7.02	SC.2 for the provision of GHG / AER	1 October 2015	Centre National de la Recherche Scientifique	Rue Michei-Ange 3, PARIS 75794, France	33,306.00	completed

MSX-8.01	SC.1 for the provision of: continued uninterrupted services for stratospheric chemistry, solar radiation and user interaction.	1 July 2015	Deutsches Zentrum fuer Luft und Raumfahrt e.V	Linder Hoehe, D-51147 Koeln, GERMANY	40, 916.00	completed
MSX-9.01	SC.1 for the provision of ENS/RAD	1 July 2015	The Finnish Meteorological Institute	Erik Palmeninaukio 1, 00560 Helsinki, Finland	36,000.00	completed
MSX-11.01	SC.1 for the provision of ENS/POL	1 July 2015	Institut national de l'environnement et des risques	BP2, Parc technologique Alata, 60550 Verneuil-en- halatte	66,000.00	completed
MSX-11.02	SC.2 for the provision of POL	1 October 2015	Institut national de l'environnement et des risques	BP2, Parc technologique Alata, 60550 Verneuil-en- halatte	15,000.00	completed
MSX-12.01	SC.1 for the provision of Delivery of GOSAT CO2 columns, GRG support and validation	1 July 2015	University of Bremen	Bibliotheksstr. 1, 28359 Bremen, Germany	19, 368.00	completed
MSX-12.02	SC.2 for the provision of GHG	1 October 2015	University of Bremen	Bibliotheksstr. 1, 28359 Bremen, Germany	15,341.00	completed
MSX-13.01	SC.1 for the provision of GRG, ENS, INT	1 July 2015	Forschungszentrum Jülich GmbH	IEK-8, Wilhelm-Johnen- Straße, 52428 Jülich, GERMANY	27,019.00	completed
MSX-14.01	SC.1 for the provision of Evaluation and maintenance of the chemistry numerical code in C-IFS / Coordination of the validation activities / Regional air quality analyses, forecasts and reanalyses with LOTOS-EUROS	1 July 2015	The Royal Netherlands Meteorological Institute	Utrechtseweg 297, 3731 GA De Bilt, the Netherlands	36,282.00	completed
MSX-14.02	SC.2 for the provision of GRG	1 October 2015	The Royal Netherlands Meteorological Institute	Utrechtseweg 297, 3731 GA De Bilt, the Netherlands	12,522.00	completed
MSX-15.01	SC.1 for the provision of AER, VAL, ENS & POL	1 July 2015	Meteorologisk institutt	Henrik Mohnsplass 1, NO- 0313 Oslo, Norway	46,923.00	completed
MSX-15.02	SC.2 for the provision of AER / POL	1 October 2015	Meteorologisk institutt	Henrik Mohnsplass 1, NO- 0313 Oslo, Norway	12,000.00	completed

MSX-16.01	SC.1 for the provision of ENS	1 July 2015	Meteo-France	73 Avenue de Paris – 94165 SAINT-MANDE CEDEX, France	61,000.00	completed
MSX-17.01	SC.1 for the provision of FIR & VAL	1 July 2015	Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V	Hahn-Meitner-Weg 1 55128 Mainz Germany	25,668.00	completed
MSX-18.01	SC.1 for the provision of ENS & EVA	1 July 2015	Rhenish Institute for Environmental Research at the University of Cologne	Aachener Strasse 209, 50931 Köln, Germany	24,000.00	completed
MSX-19.01	SC.1 for the provision of ENS & EVA	1 July 2015	Swedish Meteorological and Hydrological Institute	601 76 Norrköping, Sweden	30,000.00	completed
MSX-20.01	SC.1 for the provision of GHG	1 July 2015	SRON Netherlands Institute for Space Research	Sorbonnelaan 2 3584 CA Utrecht the Netherlands	15,936.00	completed
MSX-20.02	SC.2 for the provision of GHG	1 October 2015	SRON Netherlands Institute for Space Research	Sorbonnelaan 2 3584 CA Utrecht the Netherlands	15,936.00	completed
MSX-21.01	SC.1 for the provision of EMI & ENS	1 July 2015	Nederlandse Organisatie Voor Toegepast Natuurwetenschappelijk Onderzoek TNO	Anna Van Buerenplein 1, 2595 DA, Den Haag, Netherlands	24,000.00	completed
MSX-21.02	SC.2 for the provision of EMI	1 October 2015	Nederlandse Organisatie Voor Toegepast Natuurwetenschappelijk Onderzoek TNO	Anna Van Buerenplein 1, 2595 DA, Den Haag, Netherlands	12,000.00	completed
MSX-25.01	SC.1 for the provision of Evaluation of global and regional emissions datasets for different world regions	1 July 2015	Université Pierre et Marie Curie (UPMC)	Université Pierre et Marie Curie (UPMC) - Paris 6 Place Jussieu 4 75252 Paris - France	17,900.00	completed

MSX-25.02	SC.2 for the provision of	11 December	Université Pierre et	Université Pierre et Marie	15,000.00	31 March
M3A-23.02	1				15,000.00	
	delivery and maintenance of	2015	Marie Curie (UPMC)	Curie (UPMC) - Paris 6		2016
	the anthropogenic emissions			Place Jussieu 4		
	dataset in support of CAMS			75252 Paris - France		
	global production					