

November 28, 2016; FHNW Olten

Workshop: Funding Opportunities for Swiss Companies and Research Organisations

Jürgen Söchtig

List of all Photonics related H2020 calls

In cooperation with the CTI



KTT-Support

National thematic networks



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Commission for Technology and Innovation CTI

Outline

- **General information: CH and Horizon2020 program**
- **Where to find information on H2020calls**
- **Focus on **Photonics related** H2020 calls**
 - Running projects with CH participation
 - Calls wth submission deadline in '2017
 - Status of preparation for calls 2018-2020

Switzerland - Horizon2020 participation

Switzerland's status in Horizon2020

- Detailed Information from **SERI** (State Secretariat for Education, Research and Innovation) under the [link \(general H2020 information\)](#) and the [link \(transitional measures for H2020\)](#).
- Switzerland is **currently** considered as a **partially associated country**. National measures will be applied to fund Swiss project participations in those areas of Horizon 2020 to which Switzerland is not associated.
- **After 31.12.2016**: Switzerland **will be** either **considered as a fully associated country** or not associated (industrialised third country).
[9th February 2017: ratification of protocol on the extension to Croatia of the Free Movement of Persons Agreement]

Switzerland - Horizon2020 partner funding

Funding of Swiss partners in H2020 projects

- As a rule of thumb, **SERI** will finance all Swiss partners involved in Horizon 2020 collaborative projects, provided that they comply with the Horizon 2020 eligibility criteria and funding rules.
- From now on (expecting full association status of CH) the respective EU funding for the Swiss partner has to be claimed in all proposals (Budget - Requested EU Contribution €).

Information on calls for Horizon2020 program

- Official EU Participant Portal – **all calls**
 - Funding Opportunities: EU Programmes 2014-2020
 - [Calls H2020](#) (as of today: 55 searchable calls with open and forthcoming topics)
 - Full list of H2020 calls ([link](#))
- Euresearch (Swiss EEN representative) – **specific to CH**
 - [Euresearch](#) is supporting you and informs you about [Horizon2020](#) and other EU programs.
 - Euresearch has produced a [map](#), listing all Swiss companies participating in Horizon2020 projects



Information on **Photonics specific** calls H2020 program

- **Photonics21:**



- [Website](#), LinkedIn, Twitter, Press articles
- Informs about all EU activities related to Photonics
- Prepares input to H2020 calls via the Photonics21 Work Groups

- **Swissphotonics** [\(website\)](#)



- Consortium partner in the Coordination and Support Action project [Europho21](#) on “Implementing the European Photonics21 PPP strategy” (with 13 participating countries)
- **From Europho21: mandate to disseminate Photonics related H2020 information in Switzerland**

Photonics related EU programs – Photonics21 chapter

- Swissphotonics [Website](#)



The image shows a screenshot of the Swissphotonics website. The top navigation bar is dark grey with white text for 'Home', 'Events', 'Labs', 'Funding', 'Research', 'Photonics21', 'About Swissphotonics', and 'Support'. Below this is a red sub-navigation bar with white text for 'Events', 'News', 'Partner matching', 'EU calls', 'EU projects', and 'Coordination & Support Actions'. A red arrow points to the 'EU calls' link. The main content area is light grey and contains the following text:

EU calls

Horizon 2020

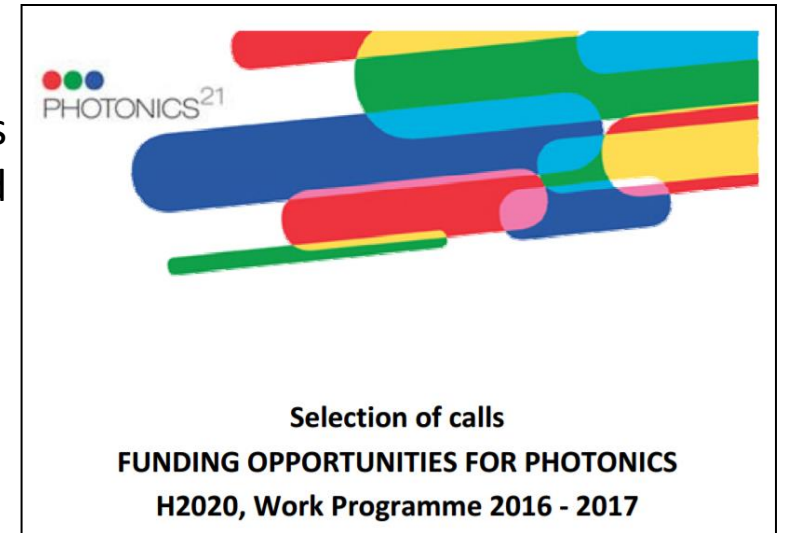
Excerpts of published **calls** with Photonics Content for **2016**: [Horizon2020-WorkProgram2016](#) (1.32 MB)

Excerpts of published **calls** with Photonics Content for **2017**: [Horizon2020-WorkProgram2017](#) (1.3 MB)

Photonics related H2020 calls 2016 / 2017

- **Photonics specific means:**

“Selection of calls for 2017 obtained from the whole collection of calls published under H2020, 2016-17 Work Programmes. The criteria used for the selection is the relationship with Photonics Technologies, both if they are directly mentioned in the text of the call or maybe if a photonics application fits in some part of the call (sensing, imaging, lighting, communications, manufacturing, etc.).”



- **Published calls for 2016**

listed in file [H2020-WorkProgram2016](#)

– 87 pages

- Index to specific call topics
- Long list of call topics
- Budget info and call schedule at the end of the report

2017

[H2020-WorkProgram2017](#)

- 86 pages

Example of call description



ICT-30-2017: Photonics KET 2017

RIA

IA

CSA

Specific Challenge

Investments in R&D&I are essential for reinforcing Europe's industrial competitiveness and leadership in photonic market sectors where Europe is strong (e.g. in communications, medical photonics, sensing) and to seize new opportunities. Europe also needs to strengthen its manufacturing base in photonics to safeguard the further potential for innovation and value creation and for job creation. We must better exploit the large enabling potential of photonics in many industrial sectors and in solutions addressing major societal challenges such as health and well-being, energy efficiency or safety. Finally, Europe needs to better exploit the innovation capacity of the photonics SMEs and the innovation leverage potential of the innovation clusters and national platforms.

Scope

a. Research and Innovation Actions

All R&I actions should demonstrate strong industrial commitment, be driven by user needs and concrete exploitation strategies, and they should cover the value/supply chain as appropriate. They should address manufacturability and include standardisation activities as appropriate. Focus is on one of the following themes:

PHOTONICS²¹
FUNDING OPPORTUNITIES FOR PHOTONICS - H2020, 2016 - 2017

ICT-30-2017: Photonics KET 2017

RIA IA CSA

Specific Challenge

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Scope

a. Research and Innovation Actions

All R&I actions should demonstrate strong industrial commitment, be driven by user needs and concrete exploitation strategies, and they should cover the value/supply chain as appropriate. They should address manufacturability and include standardisation activities as appropriate. Focus is on one of the following themes:

i. **Application driven core photonic technology developments** for a new generation of photonic devices (including components, modules and sub-systems) for agile Petabit/s Optical Core and Metro Networks. The objective is to develop new photonic technologies for metro and core networks allowing capacities of Tb/s per node, and Tb/s per channel and 100 Tb/s per link over increased transport distances, while supporting network programmability features and fitting network operator requirements and roadmaps. Actions should include all new device developments for the envisaged network architecture. The action should also lead to network solutions with low energy consumption and equipment footprint reduction by more than 10 and a significant reduction in network cost. Actions may include system, network, control and security level aspects to the extent necessary for the action.

ii. **Photonic integrated circuit (PIC) technology**: The objective is to achieve major advances in chip integration technology, enabling a cost effective volume manufacturing of PICs with significantly enhanced performances (e.g. integration complexity, footprint, energy efficiency, speed, ...) or new functions. Potential for such technology advances exists e.g. in selective area growth for multi-function integration, wider band-gap engineering, heterogeneous integration, wafer-scale electronic-photonic integration, the use of new materials, and in new approaches to small and efficient laser sources. Actions may address also the related design methodology and tools and the optimisation of materials, and should include a validation of results with fabricated PIC prototypes.

iii. **Disruptive approaches to optical manufacturing by 2 and 3 D opto-structuring**: The objective is to develop new optical manufacturing approaches for photonic components with unprecedented resolution (down to the submicron and nano-scale) or for functionalization of the surface of the materials to tailor and optimise their characteristics for a specific application. Actions may also address the related material. Novelty may be related for example to the laser source, to the optical system for light manipulation, to light-matter interaction or to the exploitation of quantum effects. Actions should include the validation of the manufacturing approach through a functional prototype of an application relevant device that goes clearly beyond the state of the art.

The Commission considers that proposals requesting a contribution from the EU of between EUR 6 and 8 million (for theme a_{ii}), between EUR 3 and 4 million (for theme a_i), and a_{iii}) would allow these themes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts. Minimum one action per theme will be selected.

b. Innovation Actions

Focus is on one of the following themes:

i. **Innovation Incubator for SMEs**¹⁴

The objective is to reinforce the competitiveness of photonics and end-user industries, in particular SMEs, by providing them one-stop-shop access, supported through competence centres, to services and capabilities such as expertise, training, prototyping, design, engineering or pilot manufacturing services for first users and early adopters enabling the wider adoption and deployment of photonic technologies in innovative products. The service to be provided to the SME should be driven by its business needs and the implementation must be flexible and fast to better cope with the speed of innovation in ICT and the SME requirements.

Large projects are expected to achieve critical mass and to better exploit EU-added value. The action may involve financial support to third parties in line with the conditions set out in Part K of the General Annexes. The

14 Wherever appropriate, actions could seek synergies and co-financing from relevant national/regional research and innovation programmes, or from structural funds addressing smart specialisation. Actions combining different sources of financing should include a concrete financial plan detailing the use of these funding sources for the different parts of their activities.

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PHOTONICS²¹
FUNDING OPPORTUNITIES FOR PHOTONICS - H2020, 2016 - 2017

consortium will define the selection process of additional users and suppliers for which financial support will be granted (typically in the order of EUR 30.000 – 100.000¹⁵ per party). A maximum of 50% of the EU funding requested by the proposal should be allocated to this purpose.¹⁴

ii. **Application driven core photonic devices integrated in systems**: Actions should address validation and demonstration of photonic based systems for the target applications. Actions should also include standardisation activities. They should demonstrate strong industrial commitment, be driven by user needs and concrete business cases supported by strong exploitation strategies, and cover the whole value/supply chain and the end-user. Focus is on one of the following themes:

1. **Biophotonics: imaging systems for in-depth disease diagnosis**: The objective is the demonstration and validation in real-settings of innovative, easy to operate, compact, and non- or minimally invasive imaging systems to support diagnosis of age and life-style related diseases. The imaging system should either be label-free or be based on already/rapidly safety-approved labels. The feasibility and validity of the diagnostics approach should already have been demonstrated and it should potentially have a significant advantage with respect to current diagnostic approaches. The action should further develop, improve and assess the imaging system under a sufficient range of realistic conditions and disease profiles. The evaluation of its usability and applicability and its validation in clinical settings should be included. Actions should be driven by medical equipment manufacturers that are capable of and committed to the commercialisation of the solutions and include teams of physicians/clinicians to take part in the development and the functional and quantitative validation. Clinical trials are not covered by these actions and will normally take place after these actions.

2. **Sensing for process and product monitoring and analysis**: The prototyping and testing of new process analytical instrumentation for on-line/in-line control, targeting the food and pharmaceutical industry, based on compact and miniaturized photonics sensors that include novel key photonics components and modules. This new instrumentation should show significant improvements beyond the state of the art in sensitivity, specificity, long term stability (including calibration stability), high measurement rate, and reliability. Instruments should have self-testing/monitoring functionalities and on-site calibration capabilities. The significant advantages compared to conventional sensors in terms of performance or cost, as appropriate, have to be demonstrated in a specific industrial application for monitoring product quality in real settings.

The Commission considers that proposals requesting a contribution from the EU of between EUR 8 and 10 million (for theme b_i) and between 6 and 8 million (for theme b_{ii}) would allow these themes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts. Minimum one action per theme will be selected.

c. Coordination and Support actions

Supporting the industrial strategy for photonics in Europe: the objective is to support the development and implementation of a comprehensive industrial strategy for photonics in Europe. The action should include the development of strategic technology road-maps, strong stakeholder engagement (in particular photonics stakeholders, National Technology Platforms, regional Clusters, end-user industries), coordination of regional, national and European strategies and priorities, and development of financial models and financial engineering to facilitate access to different sources of financing.

The Commission considers that proposals requesting a contribution from the EU of up to EUR 3 million would allow this theme to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts. No more than one action will be funded.

Expected Impact

Proposals should describe how the proposed work will contribute to the listed corresponding expected impacts and should provide metrics, the baseline and concrete targets.

a. Research and Innovation Actions

i. **Agile Petabit/s Optical Core and Metro Networks**

- next generation agile, high-capacity and energy efficient core and metro networks to support the highly connected and communicating society;
- Secured industrial leadership in optical communications systems for core and metro networks and reinforcing the full value chain in Europe.

ii. **Photonic integrated circuit (PIC) technology**

15 In line with Article 23 (7) of the Rules for Participation the amounts referred to in Article 137 of the Financial Regulation may be exceeded, and if this is the case proposals should explain why this is necessary to achieve the objectives of the action.

16 It is recommended to also use established networks reaching out to SMEs like the Enterprise Europe Network and the NCP network for calls publications and awareness raising towards SMEs.

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CH participation in running Photonics_H2020 projects



Switzerland's participation 2014-2016

Excellent Science (EUR 24.4bn)		Industrial Leadership (EUR 17bn)		Societal Challenges (EUR 29.7bn)	
1	European Research Council EUR 13.1bn	5	LEIT = Leadership in enabling and industrial technologies • ICT • Nano, new materials • Biotechnology • manufacturing and processing • Space EUR 13.5bn	8	Health EUR 7.5bn
2	Future and Emerging Technologies EUR 2.7bn	6	Access to Risk Finance EUR 2.9bn	9	Food EUR 3.9bn
3	Marie-Sklodowska-Curie Actions EUR 6.1bn	7	Innovation in SMEs EUR 0.6bn	10	Energy EUR 6bn
4	Research Infrastructures EUR 2.5bn			11	Transport EUR 6.3bn
				12	Climate EUR 3bn
				13	Inclusive Societies EUR 1.3bn
				14	Security EUR 1.7bn
		15	Spreading Excellence (EUR 0.8bn)		
		16	Science for Society (EUR 0.5bn)		
	European Institute of Innovation and Technology (EIT) EUR 2.7bn		Joint Research Centre (JRC) EUR 1.9bn		Euratom EUR 1.6bn

Switzerland's participation in Horizon 2020 (As of: 15.09.2014)

CH Association (Sept. 2014 - Dec. 2016)

CH participation as third country

No CH participation

ALPES Laser, CSEM: MIRPHAB
 BASF Schweiz: DiCoMo
 CLASS4LASER: HIPERDIAS
 EPFL: RAIS, SOLEDLIGHT
 ETHZ; PLASMOfab
 EXALOS: OCTCHIP
 IBM: ROAM, PHRESCO, DIMENSION
 L3MATRIX, ICT-STREAMS, WIPE
 Swissphotonics: Europho21
 Unitechologies: ultraSURFACE
 Vario-optics: ICT-STREAMS, COSMICC

CSEM, Meyer Burger: INREP

Low Carbon Energy
 EMPA, FLISOM: Sharc25
 FLISOM, CADCAMATION KMR:
 PVSITES
 IBM: Nano-Tandem

Factory of the Future (FoF)
 LUMENTUM: ADALAM

EPFL: FLOWTONICS
 ETHZ: PLASILOR, POLDES
 IBM: PLASMIC

CSEM, Uni Bern, EPFL:
 SUPERTWIN

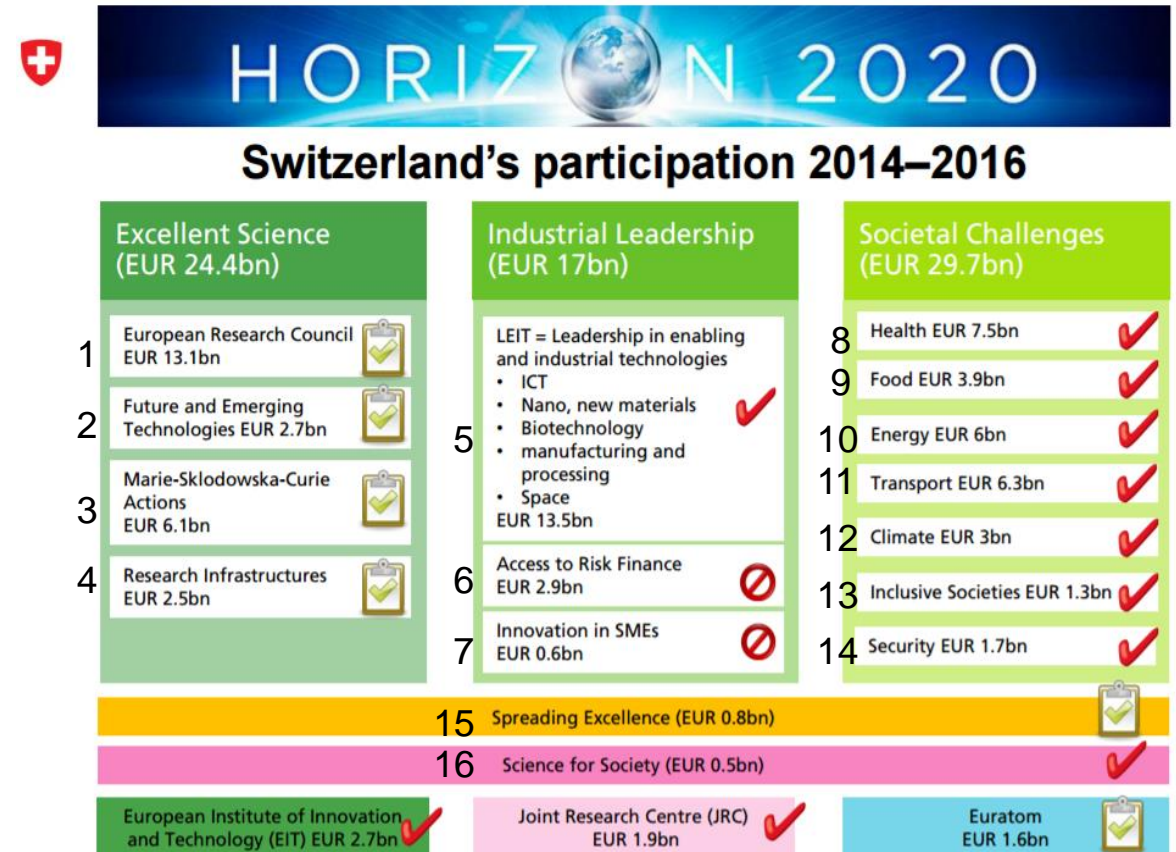
EPFL: R2R-3G
 ETHZ:
 microMAGNETOFLUIDICS
 IBM: Modes
 Suss Microoptics,
 Meyer-Burger:
 NOLOSS

PSI: EUCALL

17 Cross cutting activities: Pilots, FoF, IoT, ...

List of all Photonics related H2020 calls in '2017

- 2. Future and Emerging Technologies (FETs) 2016-17
- 3. Marie Skłodowska-Curie actions (MSCA) 2016-17
- 4. Research Infrastructures (including e-Infrastructures) 2016-17
- 5. Introduction to Leadership in enabling and industrial technologies (LEITs) 2016-17
 - 5i. Information and communication technologies (ICT) 2016-17
 - 5ii. Nanotechnologies, advanced materials, advanced manufacturing and processing, biotechnology 2016-17
 - 5iii. Space 2016-17
- 6. Access to risk finance 2016-17
- 7. Innovation in SMEs 2016-17
- 8. Health, demographic change and wellbeing 2016-17
- 9. Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy 2016-17
- 10. Secure, clean and efficient energy 2016-17
- 11. Smart, green and integrated transport 2016-17
- 12. Climate action, environment, resource efficiency and raw materials 2016-17
- 13. Europe in a changing world - inclusive, innovative and reflective societies 2016-17
- 14. Secure societies - protecting freedom and security of Europe and its citizens 2016-17
- 15. Spreading excellence and widening participation 2016-17
- 16. Science with and for society 2016-17
- 17. Cross-cutting activities (Focus Areas) 2016-17
- 18. Fast Track to Innovation Pilot 2016-17
- 19. Dissemination, Exploitation and Evaluation 2016-17



Switzerland's participation in Horizon 2020 (As of: 15.09.2014)

CH Association (Sept. 2014 -Dec. 2016)

✓ CH participation as third country

✗ No CH participation

17 Cross cutting activities: Pilots, FoF, IoT, ...

Submission deadlines for Photonics_H2020 calls in 2017

		TYPE OF ACTION	BUDGET 2017	DEADLINE	DEADLINE	DEADLINE
			(M EUR)	single step	1st step	2nd step
<u>Si. Information and communication technologies (ICT) 2016-17</u>						
ICT-30-2017	Photonics KET 2017	RIA	41	25.04.2017		
ICT-30-2017	Photonics KET 2017	IA	43	25.04.2017		
ICT-30-2017	Photonics KET 2017	CSA	3	25.04.2017		
ICT-31-2017	Micro- and nanoelectronics technologies	RIA	19	25.04.2017		
ICT-31-2017	Micro- and nanoelectronics technologies	IA	3	25.04.2017		
<u>Sii. Nanotechnologies, advanced materials, advanced manufacturing and processing, biotechnology 2016-17</u>						
EEB-05-2017	Development of near zero energy building renovation	IA	54	19.01.2017		
EEB-07-2017	Integration of energy harvesting at building and district level	IA	54	19.01.2017		
NMBP-04-2017	Architected /Advanced material concepts for intelligent bulk material structures	RIA	114.19		27.10.2016	04.05.2017
NMBP-05-2017	Advanced materials and innovative design for improved functionality and aesthetics in high added value consumer goods	IA	114.19		27.10.2016	04.05.2017
NMBP-07-2017	Systems of materials characterisation for model, product and process optimisation	RIA	114.19		27.10.2016	04.05.2017
NMBP-13-2017	Cross-cutting KETs for diagnostics at the point-of-care	RIA	15	19.01.2017		
NMBP-15-2017	Nanotechnologies for imaging cellular transplants and regenerative processes in vivo	RIA	40		27.10.2016	04.05.2017
NMBP-16-2017	Mobilising the European nano-biomedical ecosystem	CSA	5.2	19.01.2017		
NMBP-29-2017	Advanced and realistic models and assays for nanomaterial hazard assessment	RIA	114.19		27.10.2016	04.05.2017



RIA = Research and Innovation Action [Up to TRL4/5 (Prototype, demonstrator)]

IA = Innovation Action [TRL 6-8]

CSA = Coordination and Support Action

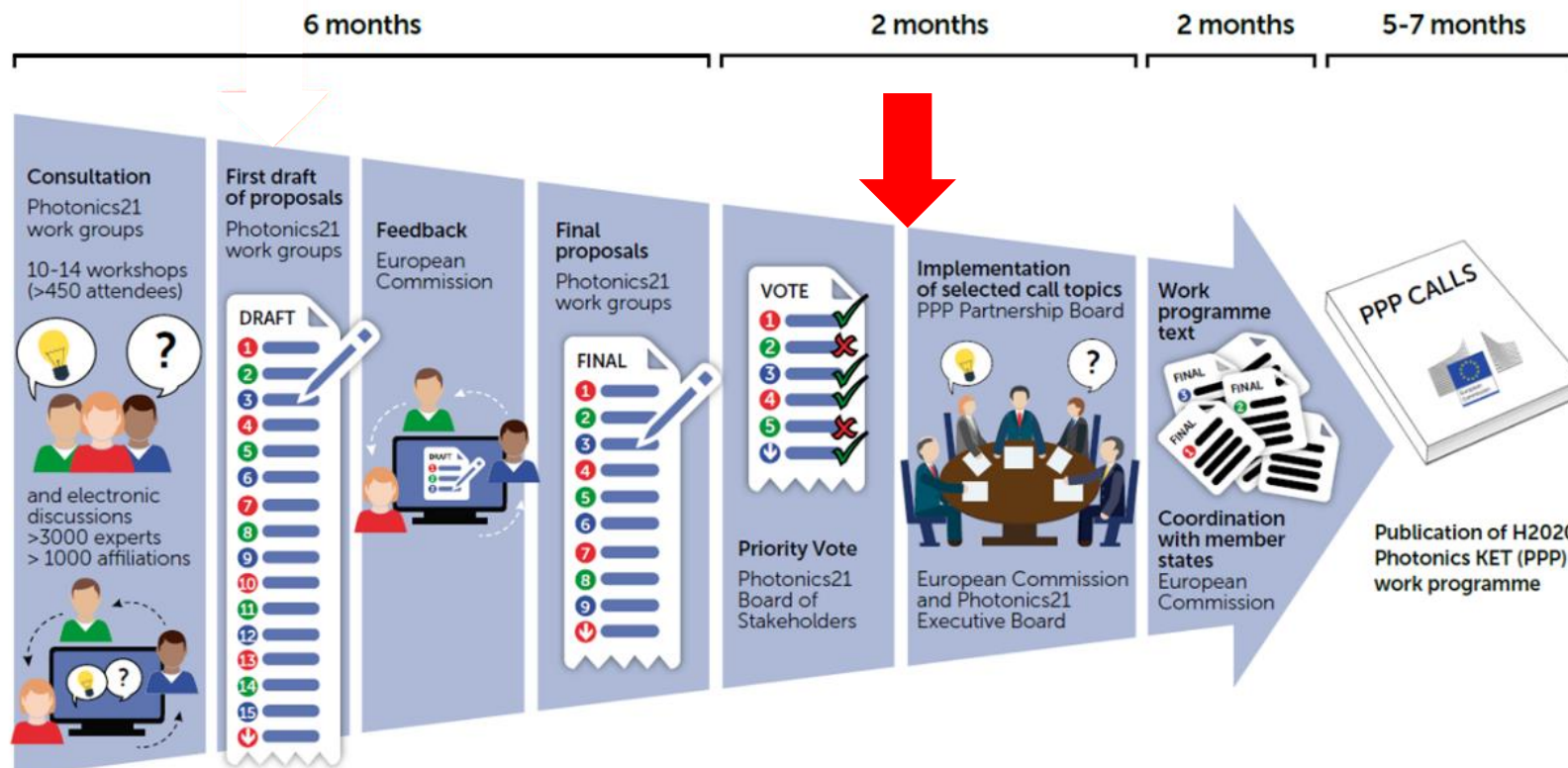
Call topics for future work programme 2018 -2020

Horizon 2020 Photonics PPP calls

Research & Innovation Priority Process



~ Oct. 2017



- Swiss National Photonics Labs have delegates in most of the Photonics21 Work Groups
- Swissphotonics is represented by three members in the Board of Stakeholders (BOS), the decision making body of Photonics21

Annex

Submission deadlines for Photonics_H2020 calls in 2017

		TYPE OF ACTION	BUDGET 2017	DEADLINE single step	DEADLINE 1st step	DEADLINE 2nd step
			(M EUR)			
4. Research infrastructures (including e-Infrastructures) 2016-17						
INFRADEV-01-2017	Design Studies	RIA	20	29.03.2017		
INFRAIA-02-2017	Integrating Activities for Starting Communities	RIA	40		30.03.2016	29.03.2017
INFRAINNOV-01-2017	Fostering co-innovation for future detection and imaging technologies	RIA	20	29.03.2017		



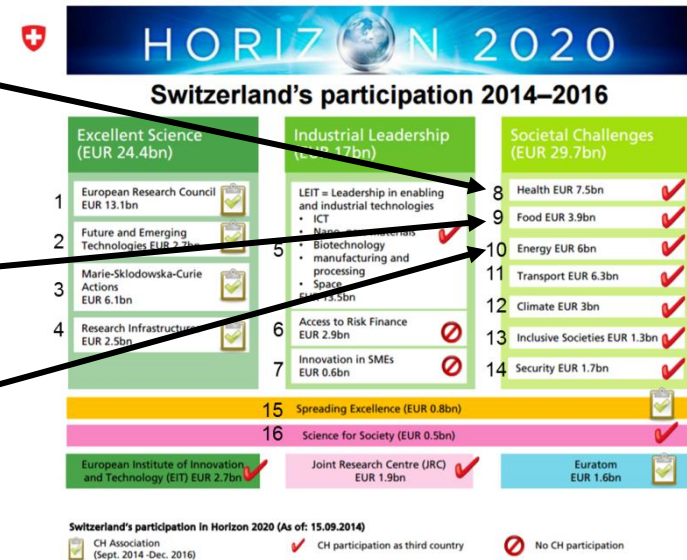
Submission deadlines for Photonics_H2020 calls in 2017

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			(M EUR)	single step	1st step	2nd step
Si. Information and communication technologies (ICT) 2016-17						
ICT-30-2017	Photonics KET 2017	RIA	41	25.04.2017		
ICT-30-2017	Photonics KET 2017	IA	43	25.04.2017		
ICT-30-2017	Photonics KET 2017	CSA	3	25.04.2017		
ICT-31-2017	Micro- and nanoelectronics technologies	RIA	19	25.04.2017		
ICT-31-2017	Micro- and nanoelectronics technologies	IA	3	25.04.2017		
Sii. Nanotechnologies, advanced materials, advanced manufacturing and processing, biotechnology 2016-17						
EEB-05-2017	Development of near zero energy building renovation	IA	54	19.01.2017		
EEB-07-2017	Integration of energy harvesting at building and district level	IA	54	19.01.2017		
NMBP-04-2017	Architected /Advanced material concepts for intelligent bulk material structures	RIA	114.19		27.10.2016	04.05.2017
NMBP-05-2017	Advanced materials and innovative design for improved functionality and aesthetics in high added value consumer goods	IA	114.19		27.10.2016	04.05.2017
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NMBP-16-2017	Mobilising the European nano-biomedical ecosystem	CSA	5.2	19.01.2017		
NMBP-29-2017	Advanced and realistic models and assays for nanomaterial hazard assessment	RIA	114.19		27.10.2016	04.05.2017



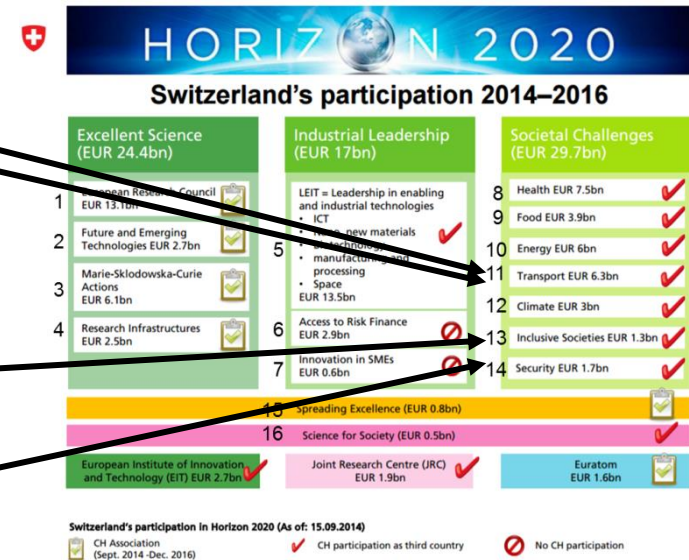
Submission deadlines for Photonics_H2020 calls in 2017

		TYPE OF ACTION	BUDGET 2017 (M EUR)	DEADLINE single step	DEADLINE 1st step	DEADLINE 2nd step
<u>8. Health, demographic change and wellbeing 2016-17</u>						
SC1-PM-08-2017	New therapies for rare diseases	RIA	60		04.10.2016	11.04.2017
SC1-PM-09-2016	New therapies for chronic diseases	RIA		13.04.2016		
SC1-PM-10-2017	Comparing the effectiveness of existing healthcare interventions in the adult population	RIA	40		04.10.2016	11.04.2017
SC1-PM-16-2017	In-silico trials for developing and assessing biomedical products	RIA	19	14.03.2017		
SC1-PM-17-2017	Personalised computer models and in-silico systems for well-being	RIA	19	14.03.2017		
<u>9. Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy 2016-17</u>						
SFS-05-2017	Robotics Advances for Precision Farming	RIA	7	14.02.2017		
SFS-13-2017	Validation of diagnostic tools for animal and plant health	IA	6	14.02.2017		
SFS-22-2017	Smart fisheries technologies for an efficient, compliant and environmentally friendly fishing sector	IA	6	14.02.2017		
BG-04-2017	Multi-use of the oceans marine space, offshore and near-shore: Enabling technologies	IA	8	14.02.2017		
BG-07-2017	Blue green innovation for clean coasts and seas	IA	12	14.02.2017		
<u>10. Secure, clean and efficient energy 2016-17</u>						
EE-11-2016-2017	Overcoming market barriers and promoting deep renovation of buildings	CSA	47	07.06.2017		
EE-12-2017	Integration of Demand Response in Energy Management Systems while ensuring interoperability through Public Private Partnership (EeB PPP)	IA	16	19.01.2017		



Submission deadlines for Photonics_H2020 calls in 2017

		TYPE OF ACTION	BUDGET 2017	DEADLINE	DEADLINE	DEADLINE
			(M EUR)	single step	1st step	2nd step
11. Smart, green and integrated transport 2016-17						
ART-01-2017	ICT infrastructure to enable the transition towards road transport automation	IA	50		26.01.2017	27.09.2017
12. Climate action, environment, resource efficiency and raw materials 2016-17						
SC5-04-2017	Towards a robust and comprehensive greenhouse gas verification system	RIA	43	07.03.2017		
SC5-13-2016-2017		RIA	10	07.03.2017		
SC5-14-2016-2017	Raw materials Innovation actions	IA	56		07.03.2017	05.09.2017
SC5-16-2016-2017	Raw materials international co-operation	CSA	9.5	07.03.2017		
SC5-18-2017	Novel in-situ observation systems	RIA	15	07.03.2017		
13. Europe in a changing world - inclusive, innovative and reflective societies 2016-17						
CULT-COOP-09-2017	European cultural heritage, access and analysis for a richer interpretation of the past	RIA	9	02.02.2017		
14. Secure societies - protecting freedom and security of Europe and its citizens 2016-17						
CIP-01-2016-2017	Prevention, detection, response and mitigation of the combination of physical and cyber threats to the critical infrastructure of Europe	IA	20	24.08.2017		
SEC-10-FCT-2017	Integration of detection capabilities and data fusion with utility providers' networks	IA	16	24.08.2017		
SEC-15-BES-2017	Risk-based screening at border crossing	IA	8	24.08.2017		
SEC-16-BES-2017	Through-foliAge detection, including in the outermost regions of the EU	RIA	8	24.08.2017		



Submission deadlines for Photonics_H2020 calls in 2017

		TYPE OF ACTION	BUDGET 2017	DEADLINE	DEADLINE	DEADLINE
			(M EUR)	single step	1st step	2nd step
<u>17. Cross-cutting activities (Focus Areas) 2016-17</u>						
PILOTS-03-2017	Pilot Lines for Manufacturing of Nanotextured surfaces with mechanically enhanced properties	IA	48		27.10.2016	04.05.2017
PILOTS-04-2017	Pilot Lines for 3D printed and/or injection moulded polymeric or ceramic microfluidic MEMS	IA	48		27.10.2016	04.05.2017
PILOTS-05-2017	Paper-based electronics	RIA	48		27.10.2016	04.05.2017
FOF-06-2017	New product functionalities through advanced surface manufacturing processes for mass production	RIA	85	19/012017		
FOF-07-2017	Integration of unconventional technologies for multi-material processing into manufacturing systems	RIA	85	19/012017		
FOF-08-2017	In-line measurement and control for micro-/nano-enabled high-volume manufacturing for enhanced reliability	IA	85	19/012017		
FOF-09-2017	Novel design and predictive maintenance technologies for increased operating life of production systems	IA	85	19/012017		
FOF-10-2017	New technologies and life cycle management for reconfigurable and reusable customised products	IA	85	19/012017		

