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QUANTUM-SAFE INTERNET (QSI)

SUPERVISORY BOARD MEETING

MARCH 13, AT 16.00 PM PORTO TIME (17:00 H CET)

PROJECT 101072637 – HORIZON –MSCA-2021-DN-01



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PROJECT 101072637 - HORIZON -MSCA-2021-DN-01

1. Overview of the Project.



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DELIVERABLES SUBMITTED:

Deliverables and Other Reports ?

Show Filters Clear Filters

Work F	Deliver	Delive	Deliverable Name	Description	Lead	Type	Dissem	Due Date	New Due	Delivery	Approval D:	Status	
WP3	D3.1	D10	Supervisory Board of	Document establishing the supervisory board and...	UVI	OTHEI	SEN	30 Nov 2022		16 Jul 2	17 Jul 20	Approved	
WP6	D6.1	D22	Website Completion	To be developed by professional designers.	SU	DEC	PU	30 Nov 2022		30 Aug 1	30 Aug 20	Approved	
WP5	D5.1	D19	Training Del. 1	CS Workshop 1 + OM	UvA	R	SEN	30 Jun 2023		26 Jul 2		Submitted	
WP3	D3.2	D11	Progress Report	Progress Report submitted to the REA covering t...	UVI	R	SEN	31 Oct 2023		27 Feb 1		Submitted	
WP4	D4.2	D15	Career Development	Document describing how the individual Career D...	UvA	R	SEN	31 Oct 2023		31 Oct 1		Submitted	
WP6	D6.2	D23	Data Management Pl	Data Management Plan submitted to the REA (upda...	SU	DMP	SEN	31 Oct 2023		24 Oct 1		Submitted	
WP6	D6.3	D24	Plan for disseminatio	Plan for the dissemination and exploitation of ...	SU	R	SEN	31 Oct 2023		31 Oct 1		Submitted	
WP3	D3.3	D12	Mid-term check meet	Project mid-term check (Meeting between REA and...	UVI	R	SEN	31 Dec 2023		27 Feb 1		Submitted	
WP4	D4.1	D14	Training Del. 2	School on Quantum Cryptography	UNI	R	PU	31 Dec 2023		16 Feb 1		Submitted	
WP1	D1.1	D1	Scientific Deliverable	Evolution reports: Each DC, from DC1 to DC5, wi...	RUE	R	SEN	31 Jan 2024		13 Feb 1		Submitted	
WP2	D2.1	D6	Scientific Del. 2: Con	Evaluation reports: Each DC, from Dc6 to DC10, ...	UNI	R	SEN	31 Jan 2024		13 Feb 1		Submitted	

1. Overview of the Project.



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STATUS OF THE MILESTONES:

Mil.	Milestone Name	Work Package No	Lead Beneficiary	Delivery Date	Status
29	Consortium Agreement.	WP3	UVIGO	30/11/2022	OK
22	Developing web page.	WP3,WP6	SU	31/12/2022	OK
30	Planned recruitments completed.	WP3	UVIGO	30/09/2023	PENDING
21	All recruited fellows enrolled in PhD	WP3	UVIGO	30/09/2023	The DCs from IDQ and TOSHIBA are yet to be enrolled in a PhD program.
31	Project mid-term check	WP3	UVIGO	31/12/2023	OK
24	Organising Schools	WP4	UNIPD	31/03/2024	PENDING

1. Overview of the Project.



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DEVIATIONS UNTIL MARCH, 2024:

DEVIATIONS	DUE to DATE	DELAYS
Kick-off meeting	November 2022	July 2023
Planned recruitments completed	October 2023	University of Geneva is still pending.
Gender balance	October 2023	We aimed to have a gender-balance group of Doctoral Candidates. However, only 18% of the Doctoral Candidates are currently female. This is mainly due to the low percentage of female applicants received (25%).
Developing web page	December 2023	August 2023.
All recruited fellows enrolled in PhD programme	November 2023	Pending.
School on Quantum Cryptography	December 2023	January 2024.
First outreach activities	One year after starting the contract (Doctoral Candidates)	Pending.



PLEASE REMEMBER:

**ANY DEVIATION FROM
THE DOA NEEDED TO BE
DISCUSSED BEFOREHAND
WITH THE PO.**

1. Overview of the Project.



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SECONDMENTS:

DC	NAME	SECONDMENTS
DC1	ALESSANDRO MARCOMINI	Planned: UT (Year 1); UNIGE (Year 2); TOSHEU (Year 2); TU/e (Year 3). Realised: None.
DC2	SILVIA RITSCH	Planned: UvA (Year 1); TTBE (Year 2); Genua (Year 2); and TOSHEU (Year 3). Realised: None.
DC3	ÁLVARO YÁNGÜEZ	Planned: CWI (Year 1); VERIQLOUD (Year 1); IDQUANTIQUESA (Year 2). Realised: None.
DC4	GINA MUSS	Planned: CWI and RUB (Year 1); TU/e (Year 2); NXP (Year 3). Realised: None.
DC5	MASSIMO OSTUZZI	Planned: UvA (Years 1, 2 & 3) and SU (Year 2); Genua (Year 3). Realised: None.
DC6	SERGIO JUÁREZ	Planned: ULEEDS (Year 1); UVIGO (Year 2); INRIM (Year 3). Realised: None.
DC7	PENDING	Planned: SIG (Years 1 and 2); IDQUANTIQUA (Years 1, 2 and 3); UVIGO (Year 2); UNIPD. Realised: None.
DC8	MATÍAS R. BOLAÑOS	Planned: ULEEDS (Year 1); SU (Year 2); EUTELSAT (Year 3). Realised: None.
DC9	JAVIER REY	Planned: NTT (Year 1), RUB (Years 2 and 3). Realised: None.
DC10	LOÏC MILLET	Planned: RUB (Year 1 and 2); UNIGE (Years 1, 2 and 3); SU (Year 2). Realised: None.
DC11	VAISAKH MANNALATH	Planned: ULEEDS (Years 1, 2 and 3); DTU (Year 2), NTT (Years 2 and 3). Realised: ULEEDS (Year 1).
DC12	FABRIZIO SISINNI	Planned: TU/e (Years 1 & 2); RUB (Year 2); UvA (Year 3); NXP (Year 3). Realised: None

1. Overview of the Project.



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CRITICAL RISKS:

Description	Risk Mitigation Measures
Committee chairs absence (Likelihood: Low; Severity: Low)	We have assigned deputy roles for each important managerial position of QSI
Urgent issues that require SB approval (Likelihood: Medium; Severity: Low)	In the case of emergencies, where the SB cannot be called on short notice, MEG has the right to devise temporary action plans. Such decisions must be ratified by the SB in its next formal meeting
Technical and non-technical risks of achieving the objectives of individual projects (Likelihood: Medium; Severity: Medium)	For each individual project, mitigation measures have already been specified in Table 1.2(a). Alternative plans will be sought from the supervisory team if any additional changes are required. Any major changes in the project must be approved by RC (or MEG, if immediate action is needed), in coordination with the EC Project Officer (ECPO), and reported to SB for final ratification.
Training events cannot be run as planned (Likelihood: Low; Severity: High)	Alternative plans must be provided by the stakeholders and/or MEG. Any changes in the training plan must be approved by TC (or MEG, if immediate action is needed), in coordination with ECPO, and reported to SB for final ratification
Late recruitment up to m12 (Likelihood: Medium; Severity: Low)	Contingency plans are in place for late starters such as video recording of some workshops and/or the possibility of delivering individual components at other times
Unfilled positions after m12, or if a DR leaves early (Likelihood: Low; Severity: High)	The scope of the relevant projects will be downsized by the supervisory team, and if approved by RC/MEG and ECPO, the post will be re-advertised for the shorter time
AP leaves the consortium mid-way through (Likelihood: Low; Severity: Low)	Alternative APs and secondment options will be sought from the main supervisor. Changes to be approved by RC/MEG and SB, and eventually by the ECPO.
The main Supervisor of a DC leaves the consortium early (Likelihood: Low; Severity: High)	

2. Next Steps.



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DELIVERABLES 2024:

BEFORE MARCH 31, 2024:

- **WP4, D4.3 -> SCHOOL ON POST-QUANTUM CRYPTOGRAPHY (PORTO).**
- **WP5, D5.2 -> COMPLEMENTARY SKILLS WORKSHOP 2 (PORTO).**

2. Next Steps.



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DELIVERABLES 2024:

BEFORE SEPTEMBER 30, 2024:

- **WP4, D4.4-> PROVIDING SHARE ONLINE RESOURCES.**
- **Create a common background among DCs.**
- **The set of resources/courses to be used will depend on the individual backgrounds of the DCs and the projects to which they are recruited.**
- **Examples of online resources: Video lectures, from the two Schools on Quantum Secure Communications (<http://www.qcall-itn.eu/sqc-school/>) and Quantum Communication Networks (<http://www.qcallitn.eu/sqcn/>) organized by the ITN QCALL, where some of our beneficiary organizations contributed to; from the Schools on PQC organized by TU/e (<https://www.pqcschool.org>); those about modern cryptography generated by the ITN ECRYPT-NET. As well as the lectures notes on quantum computing by Ronald de Wolf from UvA/CWI.**

2. Next Steps.

DELIVERABLES 2024:

BEFORE SEPTEMBER 30, 2024:

- **WP7, D7.1-> OUTREACH DAY 1: LOCAL PUBLIC-SCIENCE EVENTS.**
- **In their first year of study.**
- **The main objective is to present basic scientific phenomena to an audience of different ages in a simple, exciting, and tangible way.**
- **Examples: the ‘Be Curious’ British Science Week, the Fête de la Science in Paris (<http://www.fetedelascience.fr/>), the “La note dei Ricercatori” in Padova (<https://venetonightpadova.it>), the “Pint of Science Festival” in the Netherlands (<https://www.pintofscience.nl>), and the Nuit de la Science Geneva, the UNIGE’s Physiscope (<http://www.physiscope.ch/>).**



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2. Next Steps.



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OUTREACH ACTIVITIES:

DC	NAME	OUTREACH ACTIVITIES
DC1	ALESSANDRO MARCOMINI	He participated in “Conecta atlanTTic”, open day organised by the Research Center AtlanTTic.
DC2	SILVIA RITSCH	PENDING
DC3	ÁLVARO YÁNGÜEZ	PENDING
DC4	GINA MUSS	PENDING
DC5	MASSIMO OSTUZZI	PENDING
DC6	SERGIO JUÁREZ	PENDING
DC7	PENDING	---
DC8	MATÍAS R. BOLAÑOS	Outreach talk at the University of La Plata, Argentina.
DC9	JAVIER REY	PENDING
DC10	LOÏC MILLET	PENDING
DC11	VAISAKH MANNALATH	He participated in “Conecta atlanTTic”, open day organised by the Research Center AtlanTTic.
DC12	FABRIZIO SISINNI	Poster at the PhD Bazaar organized by DTU. Outreach talk for a Danish crypto challenge.

2. Next Steps.



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DELIVERABLES 2025:

BEFORE MAY 31, 2025:

- **WP1, D1.2-> QUANTUM PROTOCOLS PROJECTS STATE OF PLAY.**
Evolution Reports from DC1 to DC5.
- **WP2, D2.2-> COMMUNICATION NETWORKS PROJECTS STATE OF PLAY.**
Evolution Reports from DC6 to DC10.
- **The evolution reports from each DC must be sent before the end of April 2025. Reminders will be sent regarding to these deliverables.**

2. Next Steps.



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DELIVERABLES 2025:

To organize the three events together and set dates in advance:

BEFORE MAY 31, 2025:

- **WP5, D5.3-> COMPLEMENTARY SKILLS WORKSHOP 3 (ULEEDS).**
- **WP6, D6.4-> QUANTUM-SAFE INTERNET WORKSHOP (DTU).**

BEFORE SEPTEMBER 30, 2025:

- **WP7, D7.2-> OUTREACH DAY 2: PUBLIC TALKS AND SCIENCE ART CONTEST (DTU).**

2. Next Steps.



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DELIVERABLES 2025:

Description:

- **WP5, D5.3-> COMPLEMENTARY SKILLS WORKSHOP 3 (ULEEDS).**

Outsourced to the Quantum Technology Enterprise Centre (QTEC) at the University of Bristol.

It will be over two days, and it covers:

- **Reviewing the commercialisation process, including the importance of market research, protection of IP and business models (half a day).**
- **Business project management, including the practicalities of finance and contracts, responsible business practices and sustainability in business (half a day).**
- **Pitching exercises to potential investors (half a day).**

2. Next Steps.



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DELIVERABLES 2025:

Description:

- **WP6, D6.4-> QUANTUM-SAFE INTERNET WORKSHOP (DTU).**
- **QSIW will last over 3 days**
- **Participation from other related external research groups at a minimal fee.**
- **If possible align with the ETSI/IQC Quantum Safe Cryptography Conference**
- **The QSIW will be followed by the CS3 workshop**

2. Next Steps.



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DELIVERABLES 2025:

Description:

- **WP7, D7.2-> OUTREACH DAY 2: PUBLIC TALKS AND SCIENCE ART CONTEST (DTU).**
- **In the second year of study.**
- **DCs will give a public talk (e.g. in secondary schools in and around their city of residence), and encourage participants to take part in a science art contest organized by QSI.**
- **Participants should submit, possibly in digital format, any art form (e.g., poetry, music, design, painting, sculpture, and video) on a related scientific subject. All submissions will be shown throughout the week that QSIW holds, and based on the votes from the members of the public, the best three contributions will be awarded.**

2. Next Steps.



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MILESTONES TO BE ACHIEVED IN 2024:

MILESTONE	WP	INSTIT.	DUE DATE	MEANS OF VERIFICATION
Organizing Schools	WP4	UNIPD	31 March 2024	All Schools held
Security analysis of practical quantum-interference based QKD	WP1	UVIGO	30 Nov 2024	Key rate analysis includes typical transmitter flaws
Formal model for KE is developed	WP1	TU/e	30 Nov 2024	The model for KE considers quantum adversaries
Analysis of quantum-enhanced MPC	WP1	SU	30 Nov 2024	Includes definition of hybrid MPC scheme
Quantum security definition of MHF	WP1	UvA	30 Nov 2024	The definition includes quantum adversaries
Design new quantum attacks against PQC cryptosystems	WP1	RUB	30 Nov 2024	The attacks improve the state of the art
Autonomous prototype for TF-QKD	WP2	UNIPD	30 Nov 2024	Continuous operation of TF-QKD prototype (>1hr)

Milestones to be achieved in November 2024 are scientific!

2. Next Steps.



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MILESTONES TO BE ACHIEVED IN 2024:

Assessment of different network-compatible protocols	WP2	UVIGO	30 Nov 2024	Analysis includes devices present in the established network architecture
Design of an intermodal quantum communications interface	WP2	UNIPD	30 Nov 2024	It includes free-space and fibre-based QKD
Design quantum repeater protocols for packet-switched networks	WP2	UNIPD	30 Nov 2024	The protocols are compatible with packetswitched networking
Design of next-generation hybridisation methods for authentication and data integrity	WP2	UVIGO	30 Nov 2024	The methods use QRNG, PUFs, QKD and PQC
Security reductions for correctness error finding in FO KEMs	WP1	DTU	30 Nov 2024	The security reduction technique yields a security bound for FO KEMs
Design multi-user cryptographic schemes for quantum networks	WP2	UVIGO	30 Nov 2024	The schemes involve more than two users

Milestones to be achieved in November 2024 are scientific!

2. Next Steps.



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TO START IN APRIL 2024: NEWSLETTER

- **To further disseminate the highlights of the programme to scientists, policy-makers and industrial players.**
- **The Dissemination & Impact Committee (DIC) will produce a digital newsletter every 6 months starting on month 18 (APRIL 2024) with inputs from all partners.**
- **From month 24 (OCTOBER 2024), two Doctoral Candidates in rotation will be in charge of this task under the guidance of DIC.**
- **The newsletter will be posted on the QSI web site and distributed to a mailing list of registered stakeholder contacts.**

2. Next Steps.



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REMINDERS TO THE DOCTORAL CANDIDATES:

- **STORY OF THE MONTH (since Oct. 2023).**
- **VIDEO PROMOTING THEMSELVES & PROJECT (Outreach Activity).**
- **PLEASE REPORT ABOUT:**

PUBLICATIONS, CONFERENCES, SECONDMENTS, OUTREACH ACTIVITIES.
- **QUESTIONNAIRES (GENERAL DOCUMENTATION, QSI).**

3. Economical Overview.



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Doctoral Candidate (DC)	Contribution €	Number of DCs	COMMON POT
DC Beneficiary Partners	8.125 €	8	65.000 €
DC Associated Partners	8.125 €	4	32.500 €
Total Common Pot			97.500 €

- **PAYMENT EVENT IN AMSTERDAM** **20.392,18 €**
- **PAYMENT SCHOOL OF PADUA** **12.000€ - 15.000 €**
- **PAYMENT SCHOOL EINDHOVEN (PORTO).** **PENDING.**

4. Comments from the PO.



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RECOMMENDATIONS AND ISSUES FROM THE PO:

- **The PO reminded the consortium that the publications in peer-review journals needed to be in Open Access.**
- **The PO reminded the consortium that the EU funding (either emblem or sentence acknowledgment) needed to be visible on all materials, website, social media as well as posters, papers, workshop presentations, etc. This is valid for all candidates, also those funded by own funds as they are all acknowledged in the Annex 1.**
- **OTHER IMPORTANT RECOMMENDATIONS:**
 - **LANGUAGE CLASSES, TRAINING SOFT SKILLS.**
 - **QSI WEBSITE:** The PO requested that the project's website is unlinked from the Vigo university's website for higher and better visibility.



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5. Open Discussion.

THANK YOU VERY MUCH!