# White Rabbit

## COLLABORATION

www.white-rabbit.tech

Gathered to celebrate

Launch event tomorrow

And to tell you more about it

# Outline

- The Collaboration, why, what?

- Founding members, Structure

- What will we be doing? What can you do with us?
  - Shape the future of the technology
  - Participe in R&D projects
  - Define the testing procedures
  - Get support
  - Get training
  - and much more…!

# Amanda Díez Fernández
## Knowledge Transfer Officer, CERN
*Community Coordinator*
*of the Collaboration*

# The Collaboration
# Bureau

Senior White Rabbit Engineers

Community Coordinator

Hosted at CERN, the Bureau is composed of senior engineers with extensive experience in the White Rabbit technology and a community coordinator.

The main task of the Bureau is to ensure a high-performance core technology through regular maintenance and upgrades. It is also there to support all collaboration activities and the day to day running of the Collaboration. The Bureau will provide support via the online forum, as well as direct, private, support to the members.

**Maciej Lipinski**

WR Engineer

graduated in telecommunications, electronics, and informatics; specialist in control and timing at CERN; co-author of the White Rabbit extension to PTP (IEEE1588-2008) and IEEE1588-2019; chair of the New Features Committee in the P1588 Working

**Adam Wujek**

WR Engineer

graduated in computer science and System-on-Chip design; member of White Rabbit core team since 2014; specialized in WR software; member of the New Features Committee in the P1588 Working Group
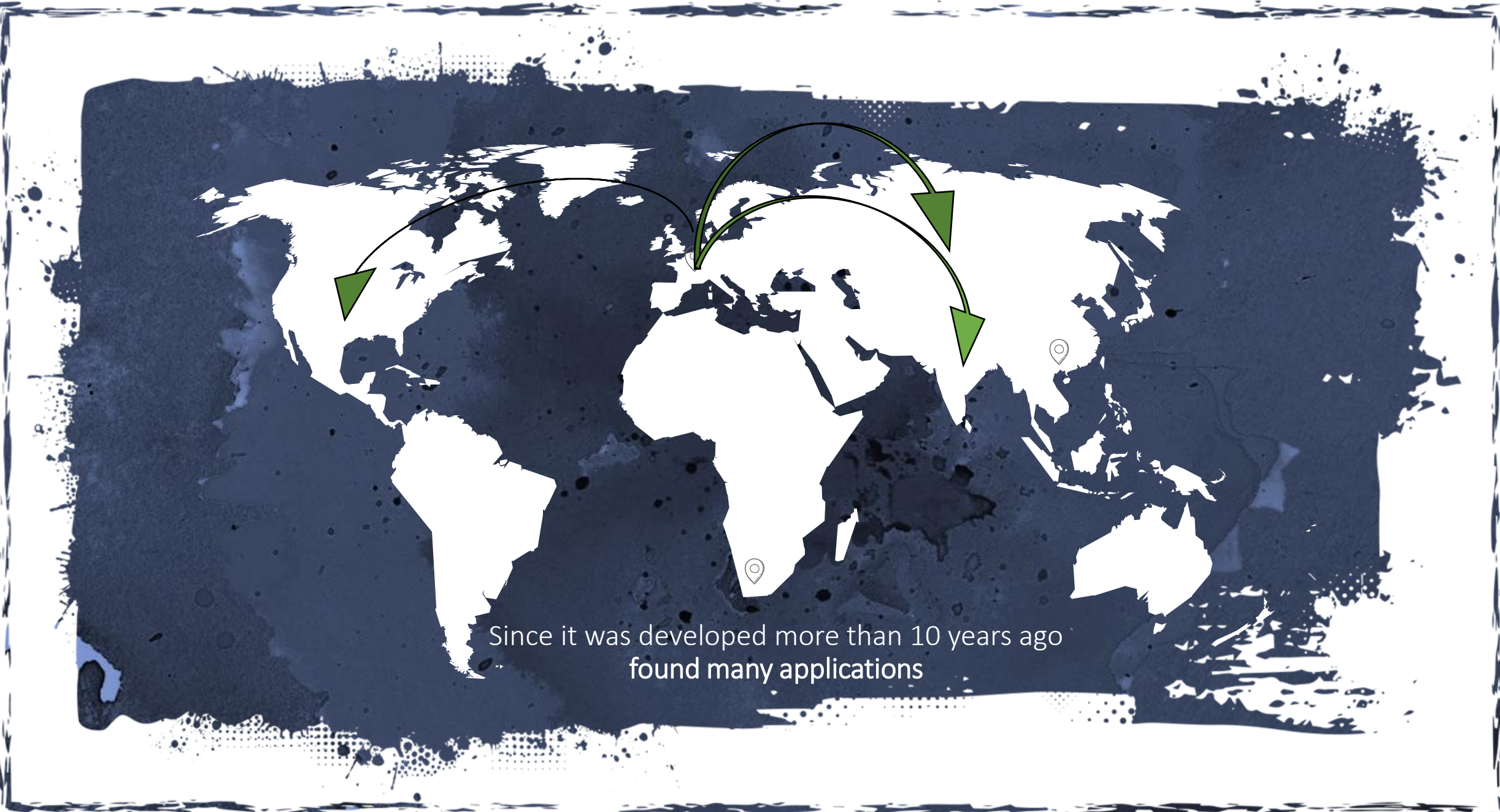
**Amanda Díez Fernández**
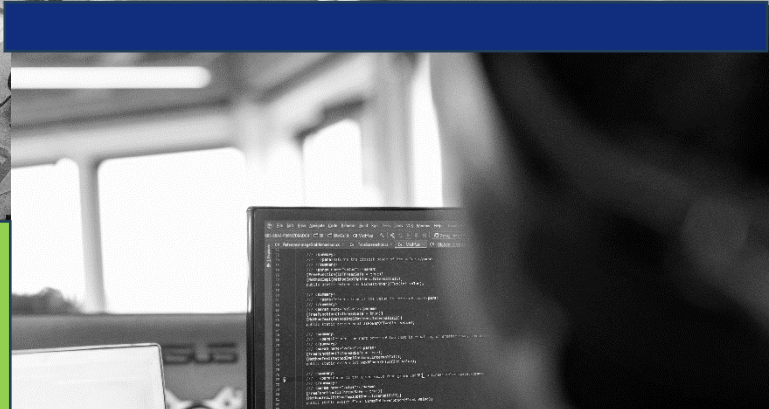
Community Coordinator

graduated in materials science and physics; works at the Business Development Section of the Knowledge Transfer Group at CERN, whose mission is to facilitate the uptake of CERN technologies and expertise by industry.

Why, what? The Collaboration

Since it was developed more than 10 years ago
**found many applications**

Together, We Create!
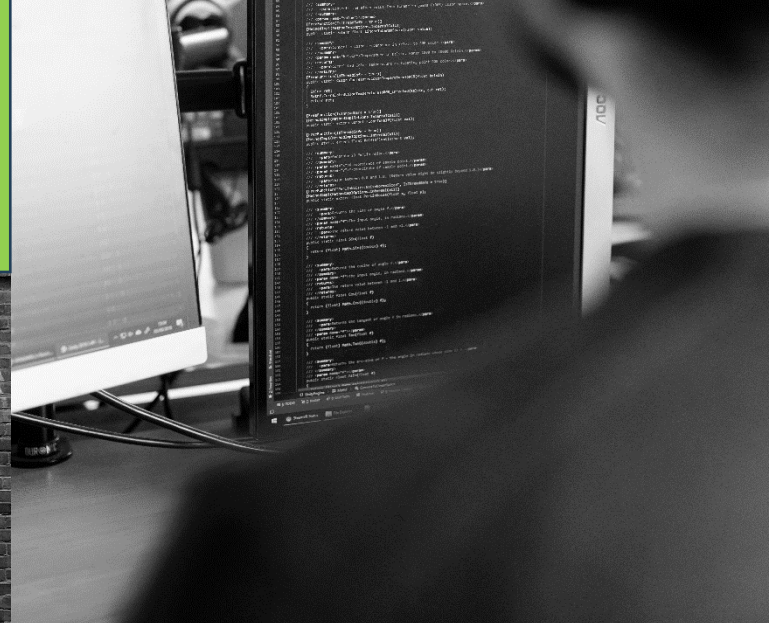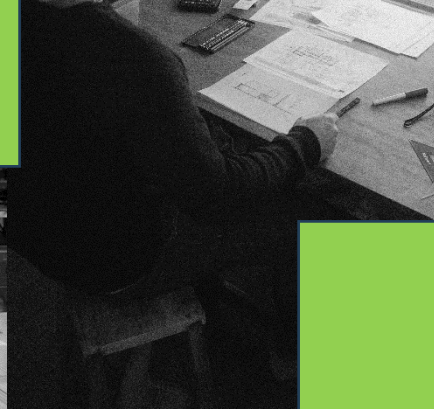
Much more
untapped potential impact

Became part of
a standard:
High Accuracy Profile
of IEEE 1588-2019

# Bring stakeholders of the technology together

- companies
  - end users
  - positioning, navigation and timing (PNT) providers
- national metrology institutes
- universities
- research institutes/laboratories

Pool resources
& expertise
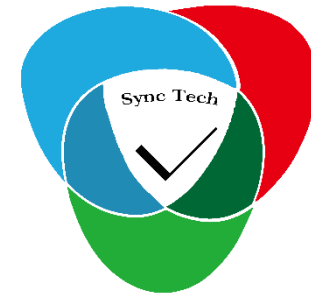
To maintain a
high-performance
open-source core
*for the benefit of all*

# White Rabbit Collaboration
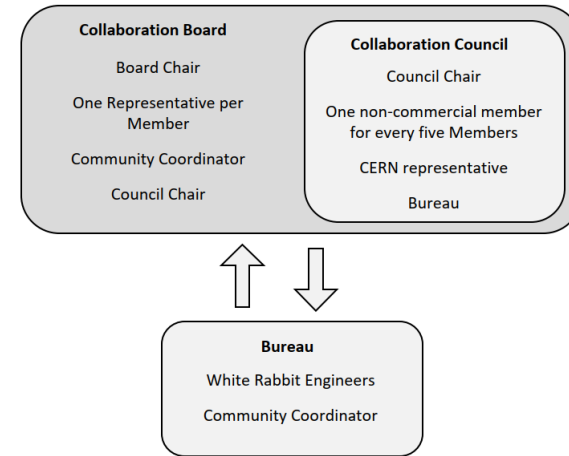
Launched in 2024

SAFRAN

gmv
INNOVATING SOLUTIONS

IQD

LMS
LIQUID-MARKETS SOLUTIONS
The Power of the Possible™

jumptrading

Sync Tech

iol University of New Hampshire
InterOperability
Laboratory

Nikhef

CERN

*talks by all members tomorrow!

# Governing bodies



**Collaboration Board**

Board Chair

One Representative per Member

Community Coordinator

Council Chair

**Collaboration Council**

Council Chair

One non-commercial member for every five Members

CERN representative

Bureau

**Bureau**

White Rabbit Engineers

Community Coordinator

## Board

- every member is present (1 vote each)
- main body for information exchange, discussions, reviewing the progress of the collaboration etc.

## Council

Amongst others, in charge of:

- Granting the status of Associated Labs
- Setting out the WR Technology Test requirements;
- Approving Project proposals;
- Approving the WR Technology future development plan.

# Chair of
# the Board

## Javier Serrano

-  Representing the Collaboration, Collaboration
activities and the Collaboration's vision
to the public;
- Reporting on a yearly basis to the Collaboration
Board on the Collaboration activities,
the financial status of the Collaboration and the
use of the sums contained in the Collaboration
Fund;
- Chairing meetings of the Collaboration Board;

## Evangelia Gousiou

CERN

Eva, electronics engineer, is the coordinator of the WR team at CERN (5-8 FTEs, electronics and software developers) that is working for the implementation and maintenance of WR applications for the CERN accelerators.

## Peter Jansweijer

Nikhef

Lead engineer at the electronics technology (ET) department of Nikhef that has been actively involved in WR since 2010. Main contributions are WR absolute calibration and various low phase noise hardware implementations. Peter is member of the New Features Committee in the P1588 Working Group

## Bob Noseworthy

InterOperability Laboratory UNH

## Benoît Rat

Safran

Graduated as "communication systems" engineer from EPFL, he started collaborating in 2010 on the development of the White Rabbit Switch. He has since continued bringing sub-nanosecond synchronization to a wide range of devices in time-critical infrastructures. In his current role as director of the Special Projects Unit, he oversees the implementation of innovative PNT solutions within emerging markets.

## Guanghua Gong

SyncTechnology

Associate Researcher at Tsinghua University and technical manager of SyncTechnology; involved in WR since 2014 and leads a team focusing on the WR timing system for particle physics facilities such as cosmic ray observatory and XFEL, contributes to the design of CUTE series WR nodes and a Fan-less WRS hardware.

## Daniel Chung Yoon

GMV

Section head of GMV's Time and Frequency division in the UK. He is experienced in managing and leading technical work for timescale generation and distribution projects. He is leading the development of a White Rabbit Switch v4 at GMV in the UK

## Nick Amey

IQD Frequency Products

Nick Amey MIET, Studied Electronics and Telecommunications at Coventry, UK, 20 years at IQD Frequency Products LTD, Senior Member of the IEEE

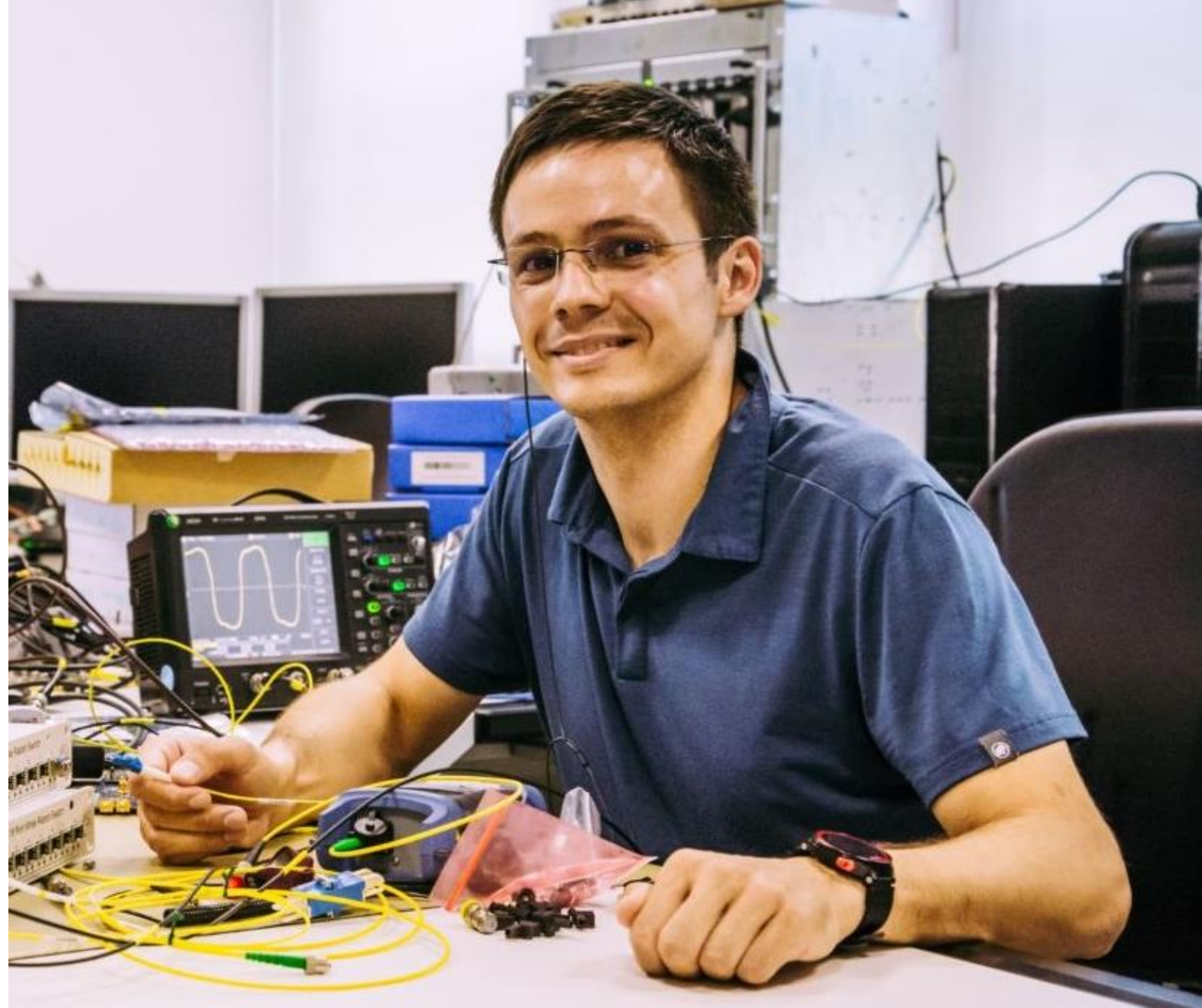## Seth Friedman

Liquid Markets Solutions

## Bence Szikora

Jump Trading

# Chair of
# the Council

## Maciej Lipinski

- Chairing meetings of the Collaboration Council;
-  Reporting to the Collaboration Board on the activities of the Collaboration Council.

# Council Members



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*third member expected to be elected soon

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The Collaboration Activities

What will we be doing?

What can you do with us?

# Take part in the discussion

To shape the future
of the technology

# Development Plan

# Participate in R&D Projects

- Develop new features to address your needs
- Demonstrate applicability in new domains

Target: pre-competitive stage

## Possible Topics

- Demonstrating and facilitating the use of WR in the control plane of quantum networks
- Using WR for long distance networks
- Using WR in telecommunications networks for 5G/6G
- Implementing seamless redundancy in WR networks
- Implementing the WR core building blocks in an ASIC

# Define tests to ensure performance and interoperability

Provided by network of associated laboratories

# Become an associate lab providing those tests

# Apply to use
# the Trademark
# on your tested products

*Product listed in website

**White Rabbit**

Get dedicated and timely support from the Bureau

# Training

A catalogue of trainings, including **free** in person trainings for members.

They will address fundamental aspects of the technology and its implementation

# User friendly documentation

Improved user experience
Reduced uptake time

# What if I don't join?

- That is also fine, nothing changes, so to say.
- Still have access to forum
- Can attend WR Workshops
- Can access technology (which will always remain open source).

Embark with us in this new chapter of the White Rabbit technology...

... to make it grow together!

Enjoy the event!

Speak to us!

Speak to the members of the Collaboration!