24. - 25.1.2023

BotH2nia goes Luleå

9.00 - 17.00 Luleå, Sweden

BotH2nia · EVENT ·

invest in NORRBOTTEN

LULEÅ UNIVERSITY OF TECHNOLOGY

CH2ESS

Swedish Hydrogen Development Center

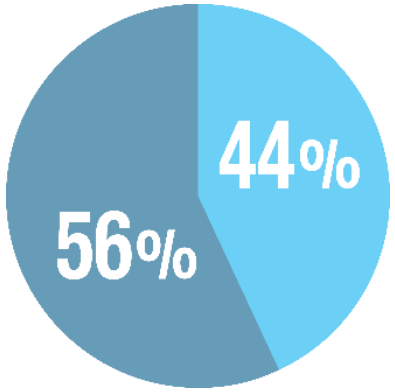
RI.SE Research Institutes of Sweden

POHJOIS-POHJANMAA COUNCIL OF OULU REGION

NEW YORK
9,5 tim.
Kiruna
Polcirkeln
Luleå
Piteå
Skellefteå
Stockholm
LONDON
PARIS
BARCELONA
3,5 tim.

LULEÅ
UNIVERSITY
OF TECHNOLOGY

Best on business cooperation



56% research
44% education

Antal studenter	Antal anställda	Antal professorer
19 155	1 815	270
♀ 50% kvinnor	♀ 49% kvinnor	♀ 25% kvinnor
♂ 50% män	♂ 51% män	♂ 75% män

SEK 1.9 billion
turnover

67 research subjects with a turnover of SEK 1 billion

CH_2ESS

Centre for Hydrogen Energy Systems Sweden

Accelerating hydrogen!

Director Dr.Cecilia Wallmark, cecilia.wallmark@ltu.se

LULEÅ UNIVERSITY OF TECHNOLOGY

CH_2ESS

INNOVATION FOR HYDROGEN

1) Research – to be immediately RELEVANT
2) Education – to reach many QUICKLY
3) Development of the society

LULEÅ UNIVERSITY OF TECHNOLOGY

CH_2ESS

Progress for education and research in hydrogen

- Unique collaboration between authorities, industry, energy, academia and public partners
- Working for the world's most sustainable solutions

CH2ESS leads, develops and collaborates locally, regionally, nationally, on Nordic and EU-level, and globally

CH2ESS is a doer

- Develop networks and projects
- Includes the ENTIRE hydrogen value chain and diverse research disciplines, e.g. Energy & Fluid Mechanics, Material & Safety, Law & Economics, Policy, Environment, Health & Society, IT & Digitalisation.

Purposes for this event

- ✓ *To learn more people in the area*
- ✓ *To discuss investment and business*
- ✓ *To coordinate education possibilities*
- ✓ *To support co-operation, inclusion of SME and pave the way for common offers*
- ✓ *To extend the regional value chains for the global hydrogen area*

We will collect action points, today!

LULEÅ UNIVERSITY OF TECHNOLOGY

Aurelia Turbines: We make small gas turbines for industrial applications

We design, build and sell high-efficiency gas turbines

We provide a complete package for heat and generation (CHP)

Our turbines have high levels of efficiency, at a market-leading 40%

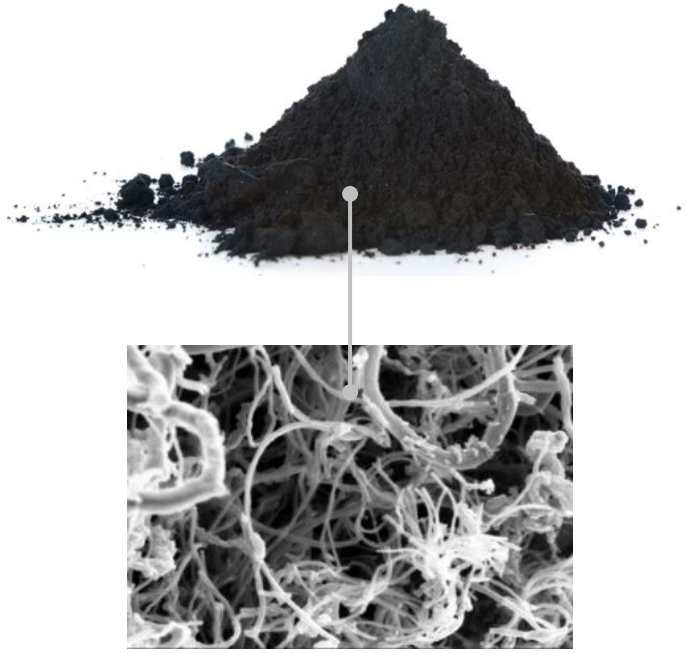
Our turbines can utilise a variety of fuels from standard fuels to hydrogen

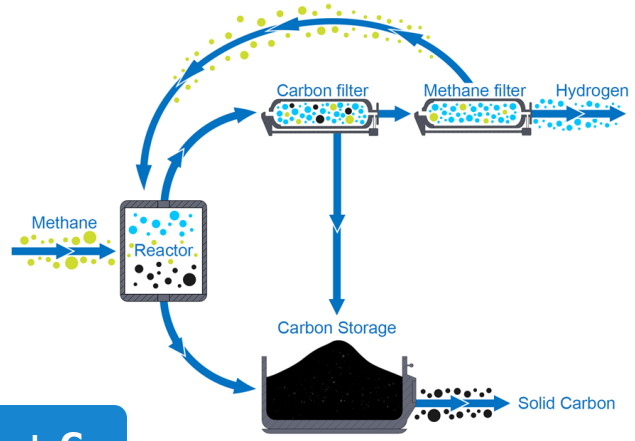
Our turbines target the SME customer, a large market that lack options CHP solutions

Our know-how can be expanded to new products, such as compressors for heat pumps and hydrogen

Hycamite TCD Technologies Oy – clean hydrogen and solid carbon

- Capturing carbon from methane in solid form:
  - Clean hydrogen
  - Solid, high-value carbon
- Deep-tech startup, intention to start building of the industrial scale demonstration facility

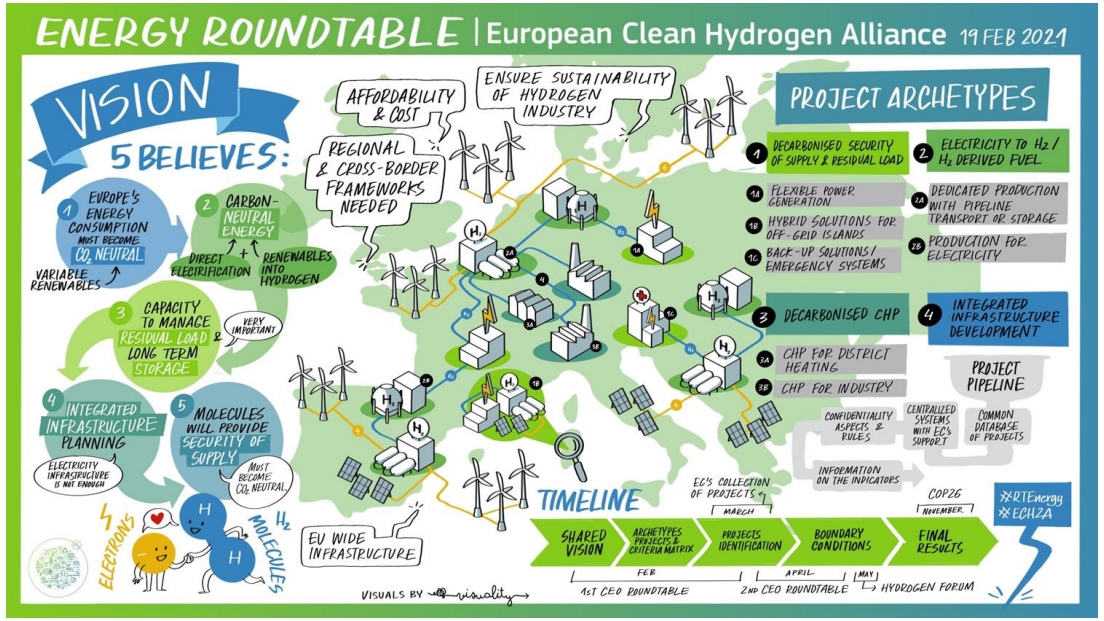




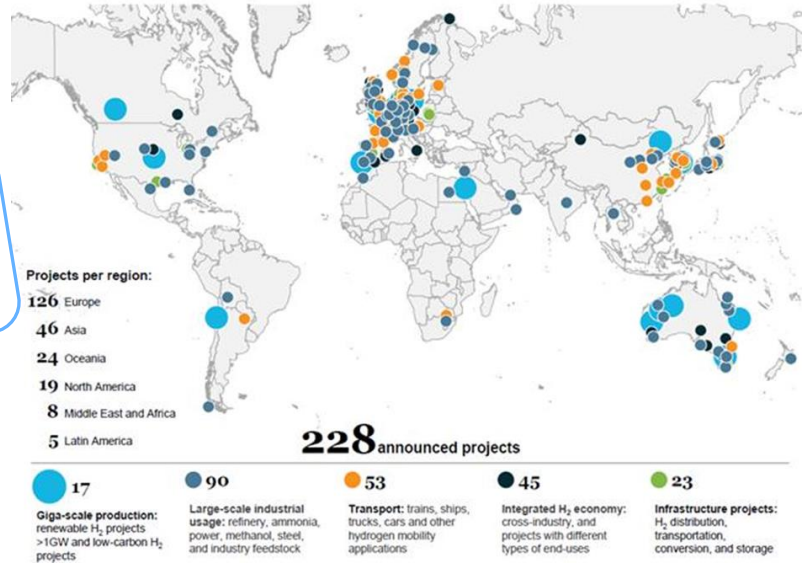
$CH_4 \rightarrow 2\ H_2 + C$

Some European H_2 maps

A glimpse of the past



Worth noting: Finland and Sweden barely exist on these maps!



A glimpse of the past

Targets of the initiative

1. To create a brand everyone in the area can refer to

2. To market this brand to European counterparties, and raise awareness of the area as hydrogen bay

3. To provide a platform for collaboration

4. To facilitate communication between projects in the area

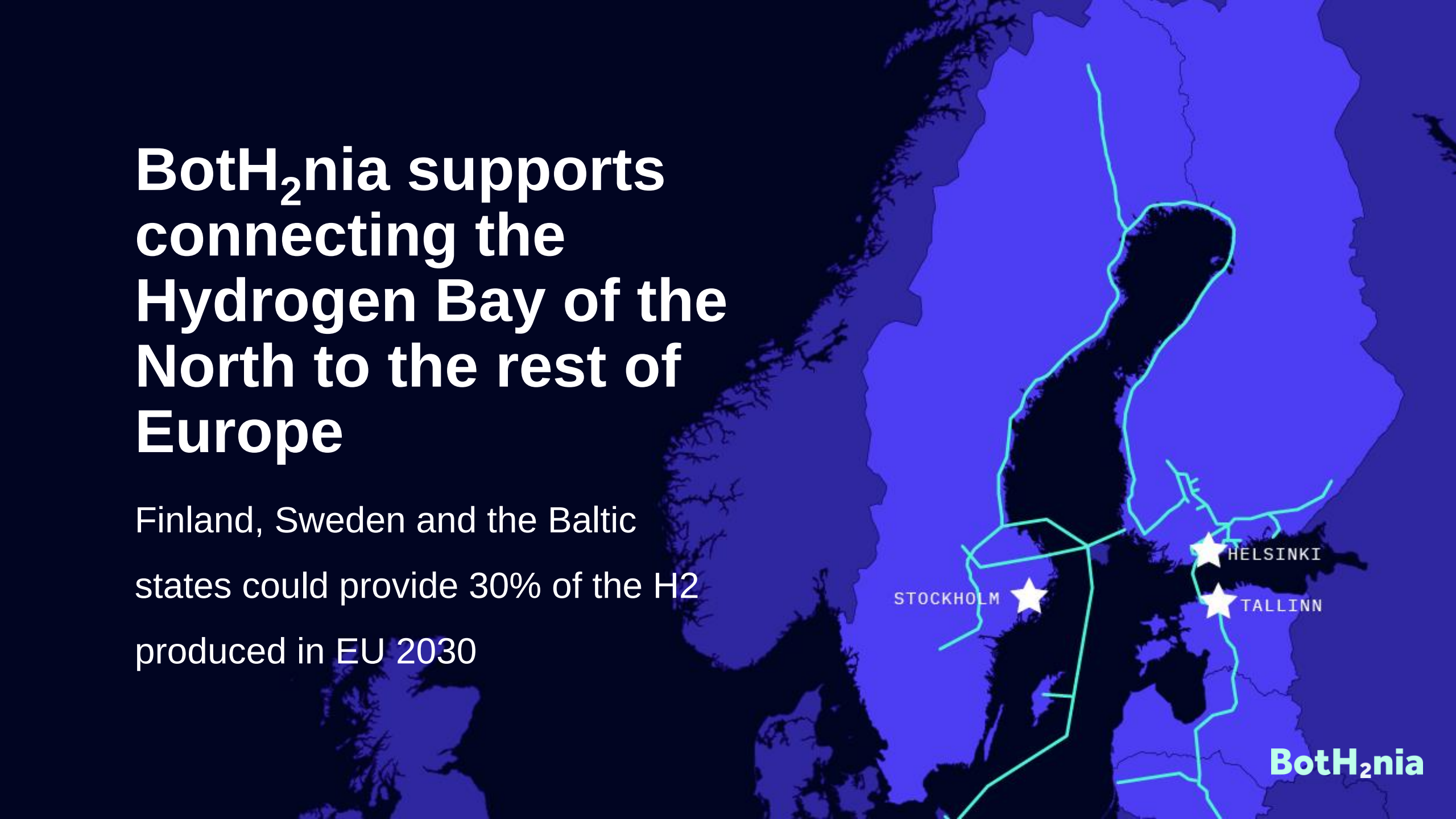
Both$_2$nia

BotH$_2$nia

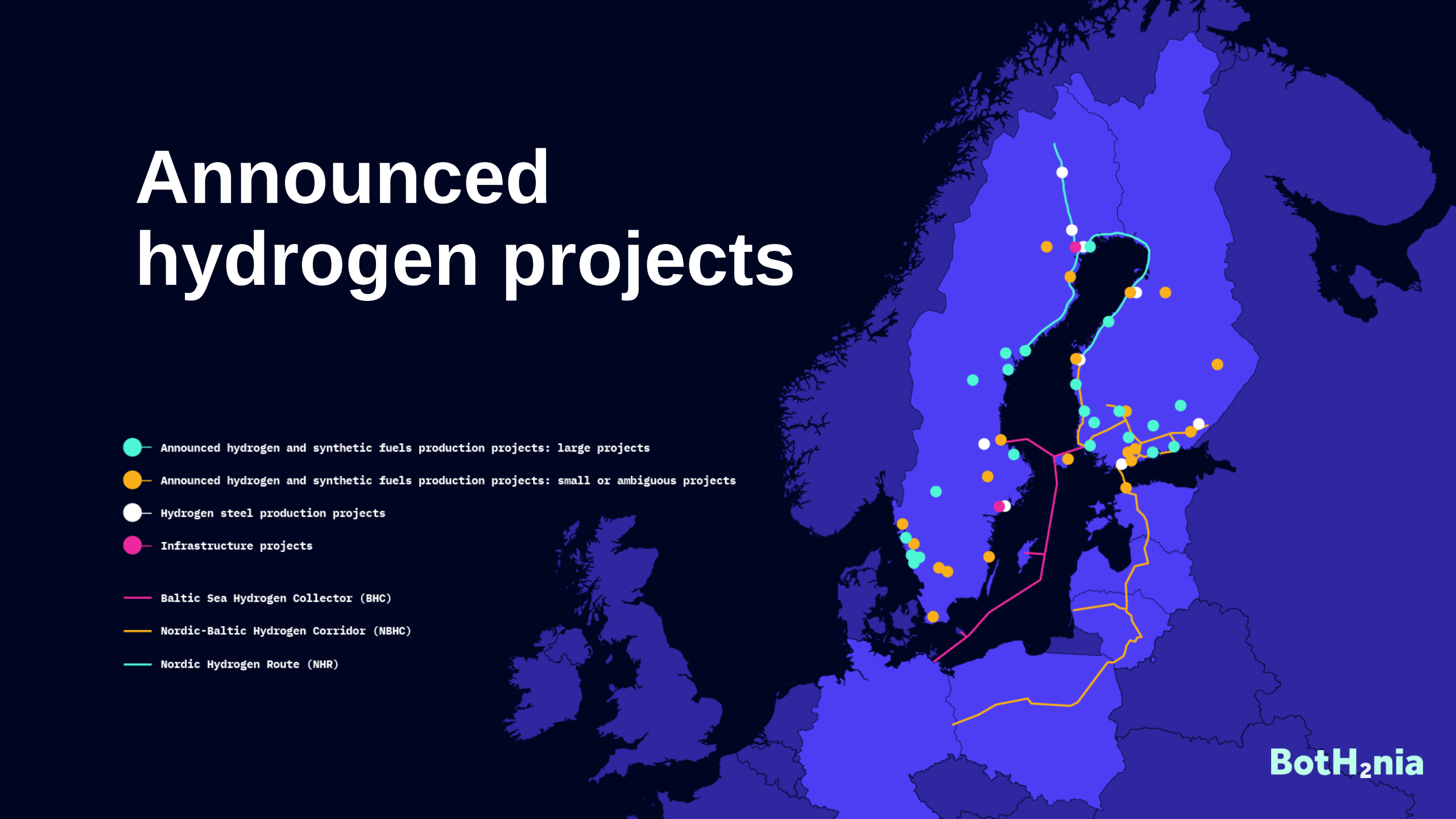
Cross-border cooperation to boost the visibility of the Baltic Sea region in hydrogen Europe.

BotH$_2$nia supports connecting the Hydrogen Bay of the North to the rest of Europe

Finland, Sweden and the Baltic states could provide 30% of the H2 produced in EU 2030



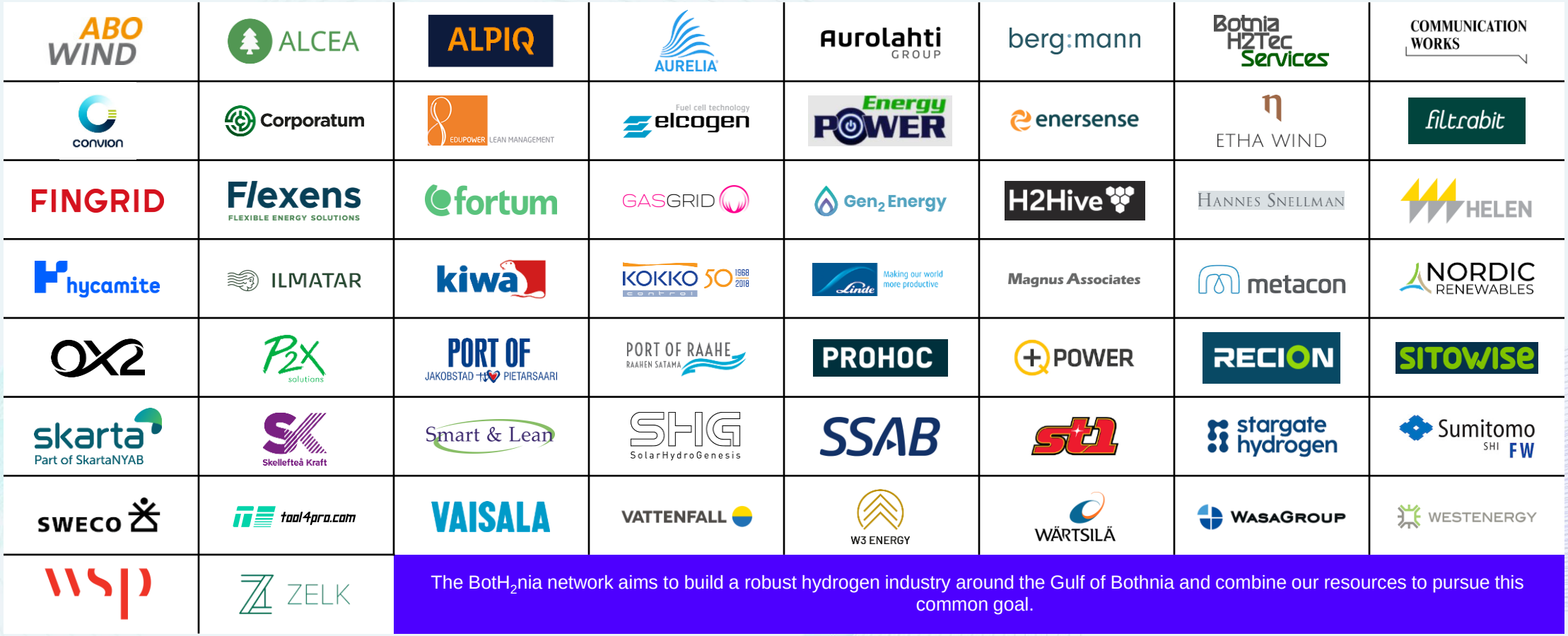
Announced hydrogen projects



BotH$_2$nia Network – public actors

Åbo Akademi	BUSINESS FINLAND	OULU BUSINESSOULU	EDUCATION CENTRE BRAHE	cursor	DIGIPOLIS	Energiforsk	Estonian Association of Hydrogen Technologies
GREEN INDUSTRY PARK	HANKEN	KAMK · University of Applied Sciences	KEHY BUSINESS IMATRA REGION	Kristiinankaupungin elinkeinokeskus OY	Kauhajoki	Kokkola Karleby	KVARKENRÅDET MERENKURKUN NEUVOSTO
LAB University of Applied Sciences	LAPIN AMK Lapland University of Applied Sciences	LAPPEENRANTA	LULEÅ UNIVERSITY OF TECHNOLOGY	LUT University	MERINOVA TECHNOLOGY CENTRE	MICRO POLIS	OAMK
OULU	OULUN YLIOPISTO	PIRKANMAA	POHJANMAAN KAUPPAKAMARI	POHJOIS-POHJANMAA COUNCIL OF OULU REGION	Prizztech	PYHÄJOKI	RAAHE
RAAHEN SEUDUN KEHITYS	RI.SE Research Institutes of Sweden	SIIKAJOKI	Tampere University Tampere University of Applied Sciences	TURKU BUSINESS REGION	TURKU AMK	TURUN YLIOPISTO	UTAJÄRVEN YRITYSPUISTO OY
Vaasan yliopisto UNIVERSITY OF VAASA	VAMK VAASAN AMMATTIKORKEAKOULU UNIVERSITY OF APPLIED SCIENCES	VASEK	VTT	The BotH$_2$nia network aims to build a robust hydrogen industry around the Gulf of Bothnia and combine our resources to pursue this common goal.			

BotH$_2$nia Network – commercial actors



The BotH$_2$nia network aims to build a robust hydrogen industry around the Gulf of Bothnia and combine our resources to pursue this common goal.

BotH$_2$nia

Join the network at www.both2nia.com

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Program 24 Jan

9.40 Keynote 1: Welcome to new energy markets
10.25 Keynotes 2 & 3: Hydrogen valley cradles
11.45 Investments transforming the industry of the North
13.35 Keynote 4: Permitting solar, wind and hydrogen in Sweden and Finland
14.10 Parallel workshops with coffee
16.30 Presentation of workshop results, general discussion
18.30 Dinner at Kulturens Hus

DISCUSSION

Which are your expectations of this event?

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