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Hydrogen Solutions for the Green World!

HyMove founders



Theo P.M. Hendriks
CEO (Founder, Co-owner)



HyMove 公司创业合伙人，荷兰及欧洲氢能源应用和燃料电池系统第一代发起人和推广者

固态物理博士，声震和流体动力学专家；曾任欧洲宇航实验室负责人，协助研发协和式超音速飞机，阿丽亚娜4型火箭等科研项目；荷兰及欧洲气体工业代表人，氢能源应用产业链和燃料电池系统技术专家

Jan van Beckhoven
CCO (Founder, Co-owner)



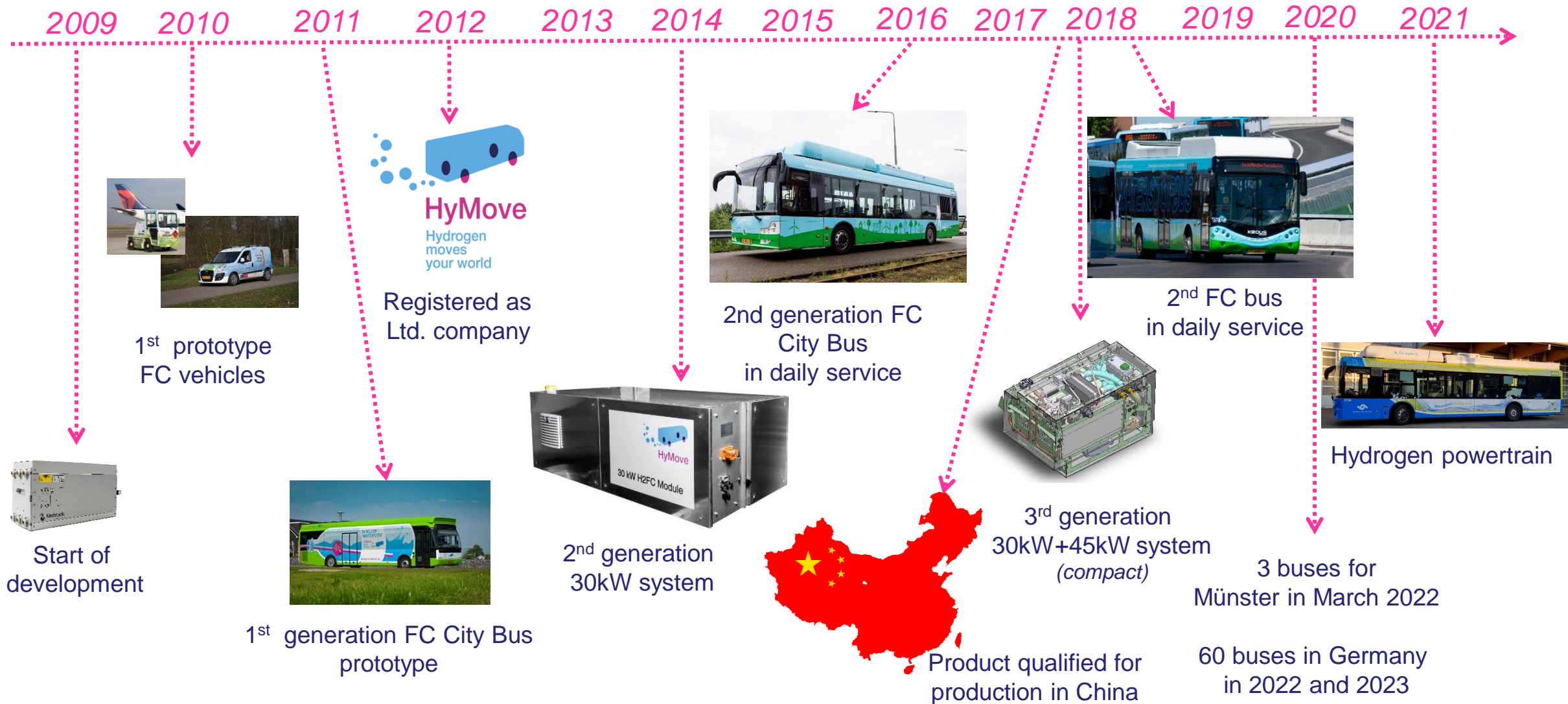
HyMove 公司创业合伙人，气体技术和燃料电池传动系统专家

半导体和微电子技术博士，国家气体设备技术安全首席研究员；前荷兰皇家海军少校，荷兰军事研究实验室负责人，北约微电子技术发展应用联系人；前荷兰阿珀多是参议员，代理市长；欧洲氢能源发展策略专家



City of Apeldoorn

Highlights



HyMove fuel cell system



Operating Power	6 – 60 kW continue
Voltage	200-360 VDC
Volume	0,5 m3 without H2 storage
Dimensions (mm)	1600 x 800 x 550
Efficiency	>50% @ nominal power
Peak efficiency	56% @ 50% power
Ambient temperature	-30 °C to +40 °C
Emission	water
Operating temperature	60-65 °C
Life time	12 year
Module weight (excl. frame)	270 kg
Heavy duty frame weight	220 kg

Application specification

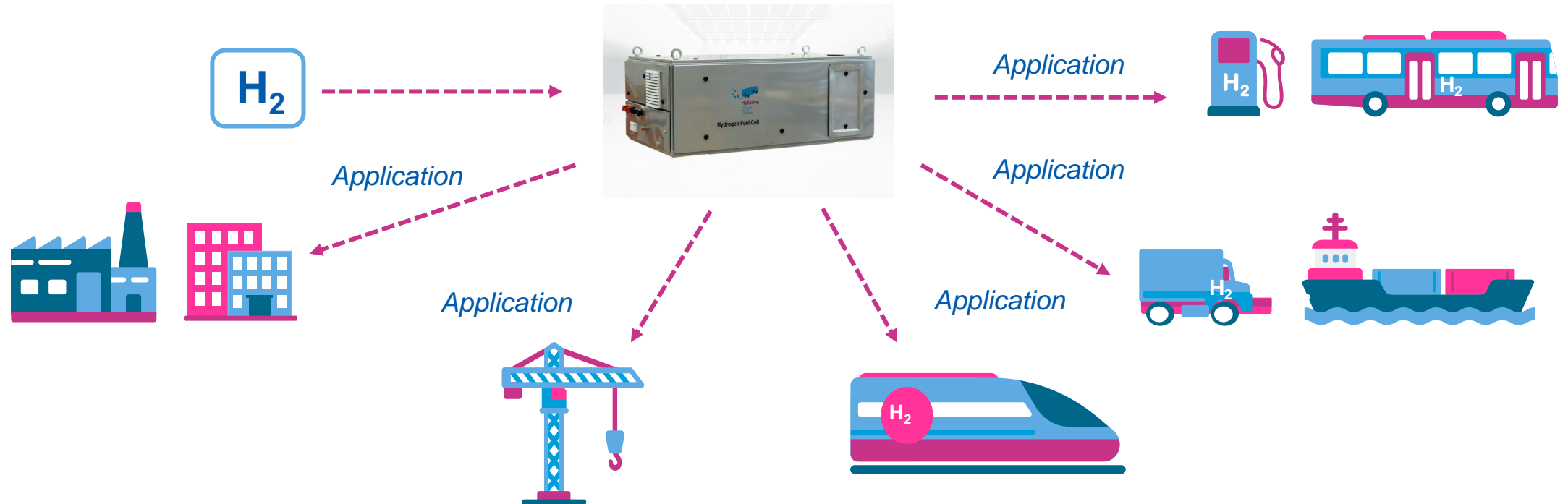


Cost per kilometer as low as diesel or LPG vehicles!

Citybus	
Length	10m – 12m – 18m
Total weight	19.000 – 26.500 Kg
Range	450 km
Battery	70 kWh NMC
System Voltage	650 V _{nom} DC
Fuel cell system	HyMove 60 kW (EoL)
Tank capacity	30 - 37kg @ 350 bar
Power max/ nominal	2x 204 kW / 126 kW
Torque max/ nominal	2x 10.000 Nm / 3.900 Nm
Maximum speed	85 km/h
Service life of the drive system	5-8 years warranty on H ₂ system

HyMove website – FC system applications

HyMove H₂ FC system



Represent the best hydrogen fuel cell system from the Netherlands



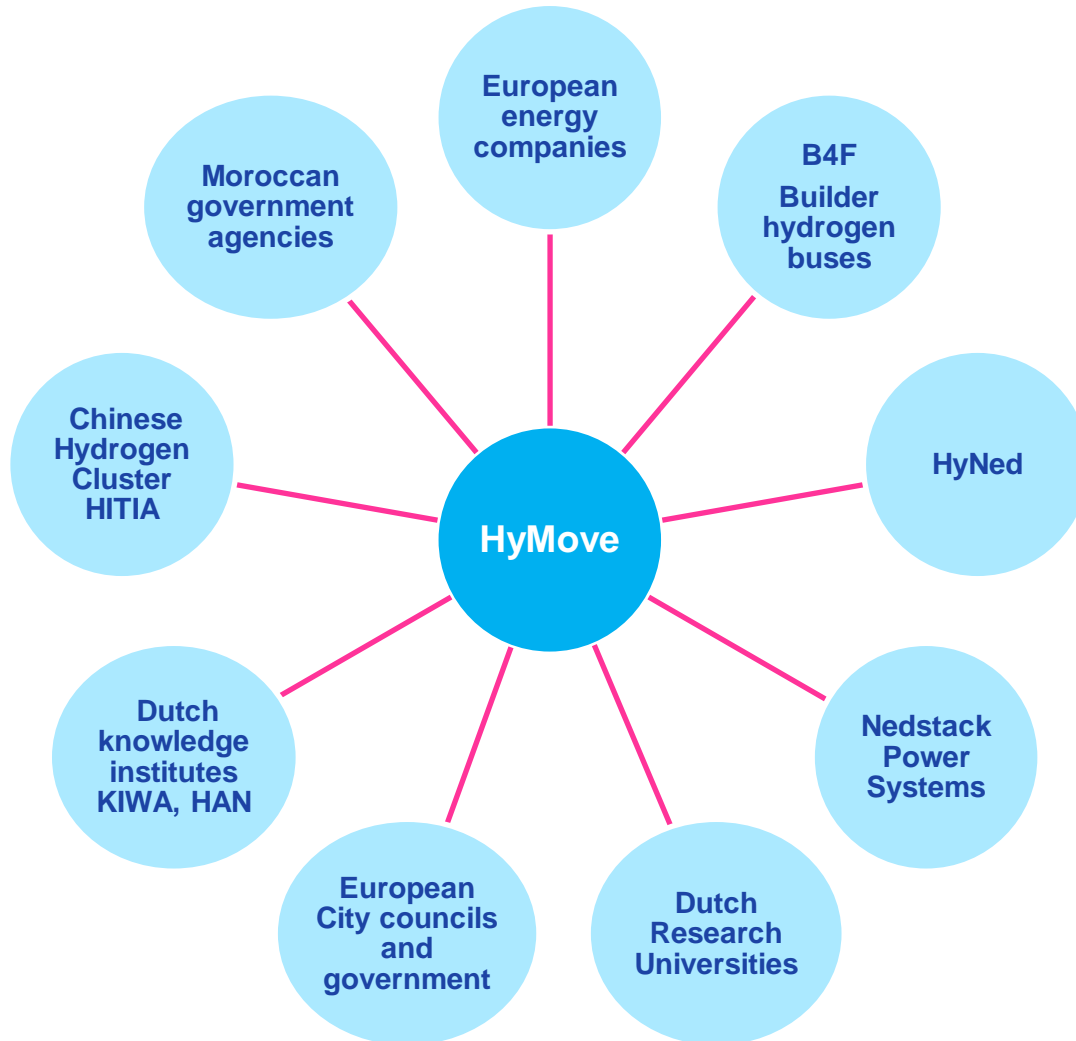
- Demonstrate the highest level of fuel cell power generator in EU countries: Germany, Austria, Spain, Belgium
- 1st developer of hydrogen fuel cell buses in the Netherlands
- 1st hydrogen refuelling station co-developer in the Netherlands
- Initiator of the 1st national hydrogen safety regulation
- Longest live-data of fuel cell buses in operation in the Netherlands

Industrial leadership: our professional contributions



- Safety regulations on hydrogen refuelling stations
- Safety and parking regulations for FC buses
- Feasibility study of hydrogen carriers for inland shipping
- Feasibility study for large scale import of hydrogen from Morocco and similar countries
- Development project for military vehicles European Defence Agency
- Development project for hydrogen fuel cell trucks

HyMove network and focus



Expertise in the entire hydrogen supply chain / ecosystem

Projects

- Fleet of hydrogen buses
- FC bus manufacture
- Military supply trucks
- Refrigerator containers for transportation
- Building machinery
- International hydrogen supply chain

Consultancy

- Energy supply companies
- Advising the government on the energy transition and hydrogen

Close cooperation

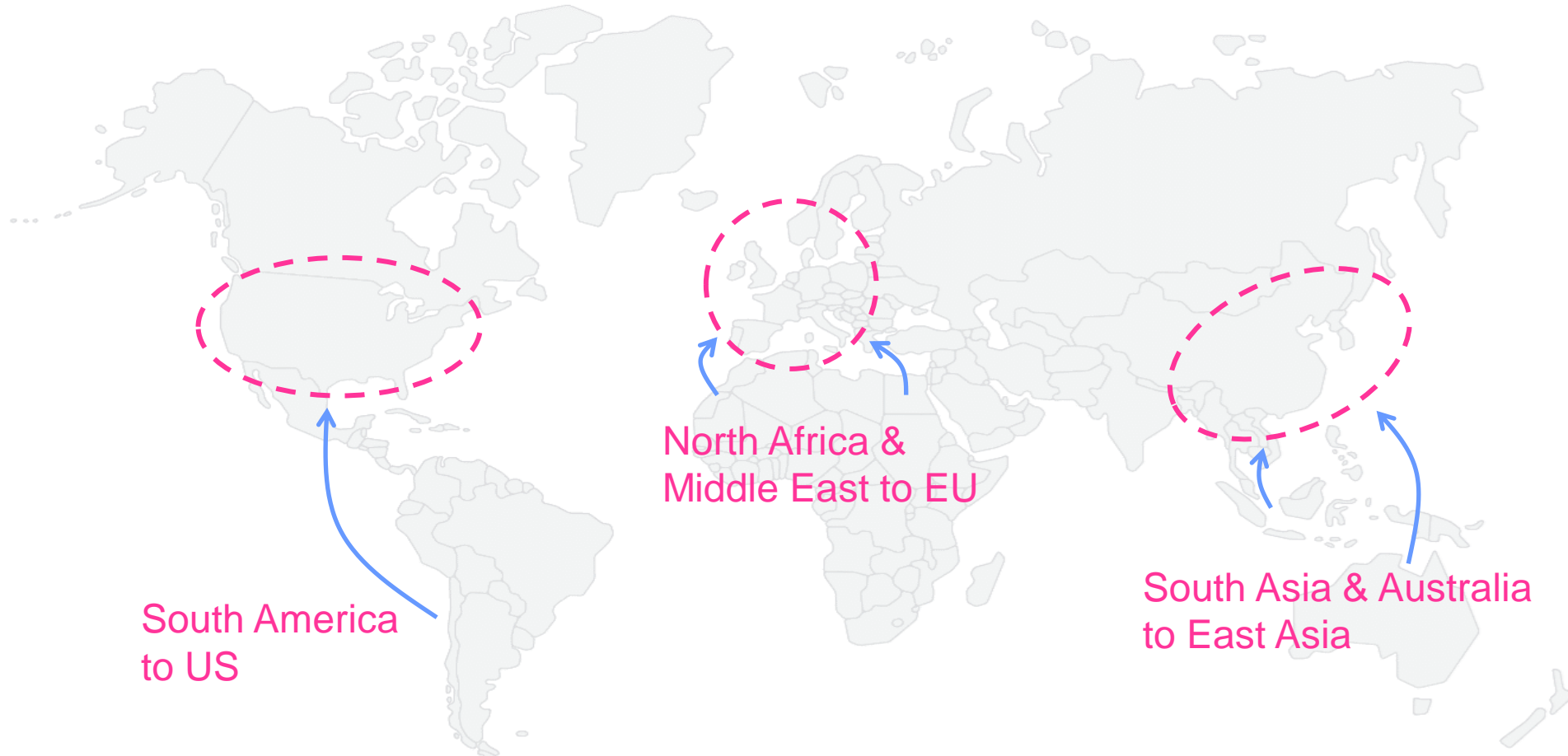
- Nedstack
- HAN University
- Saietta
- HyNed

Hydrogen Supply: Future demand centers of hydrogen



Source:
Hydrogen Council & McKinsey (2021)

Potential markets for hydrogen supply chain with LOHC



HyMove 2.0 Opportunities of cooperation



- Industry:
 - Extension FC systems line-up from 12kW to 90kW
 - Maintaining our technical superiority regarding efficiency and durability
 - Production of FC systems and drive lines at launching customers
 - Distributed assembly, followed by localization of parts;
 - Supply of complete driveline systems for heavy and medium duty vehicles; inland ships
- International Hydrogen Valley
 - Hydrogen carriers; import of cheap green hydrogen to EU
 - Consortium building of complete logistic chain
- Network:
 - Combine our network in Europe and China for H2 solutions worldwide

Thanks and look forward to meet you!

Contact details



Tina.pan@hymove.nl

www.hymove.nl