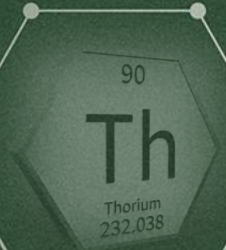


EUROPE'S ONLY LISTED PURE-PLAY IN ADVANCED NUCLEAR.
SCALABLE AND BEYOND CONVENTIONAL NUCLEAR.



SMR

SUBCRITICAL MICROMODULAR REACTOR



ENERGY STORAGE & ENERGY GENERATION

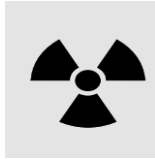


SOLVING PROBLEMS WITH HIGH IMPACT POTENTIAL

Problem-Risk-Need-
Analysis

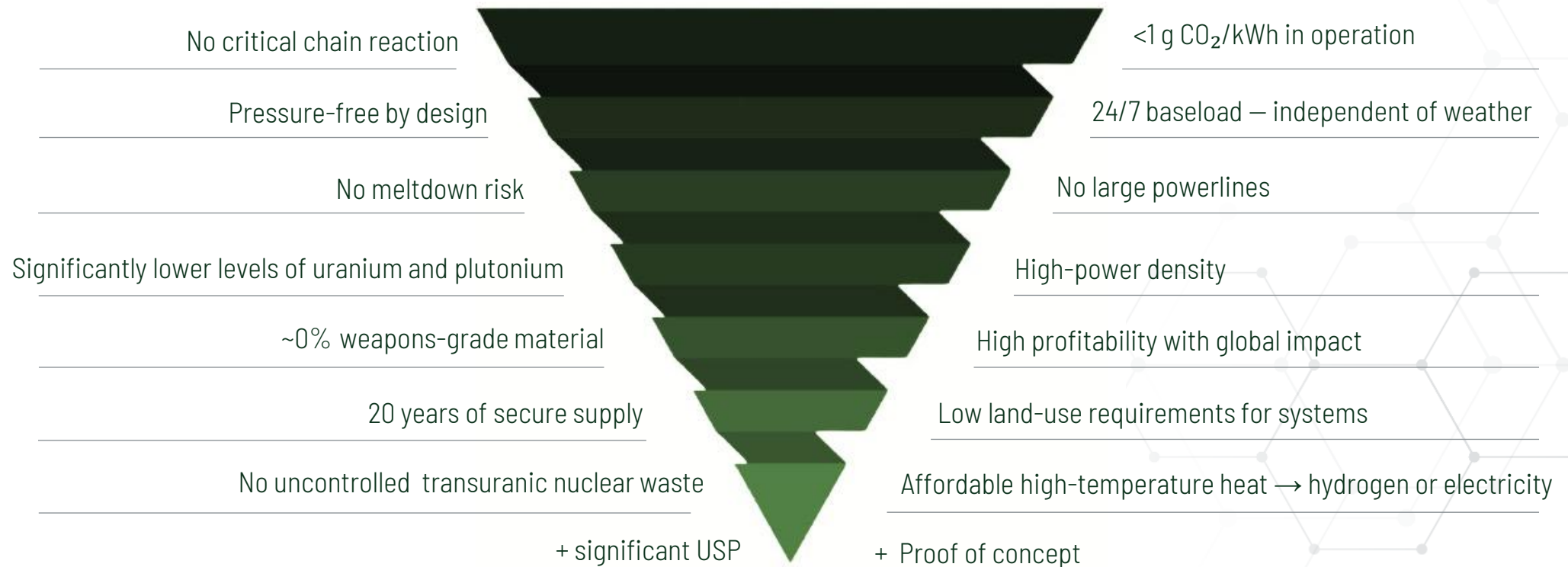
RISK

Critical chain reaction
Or: Transuranic nuclear
waste



RISK

Volatile renewables
Or: Pollution &
ocean acidification



SMR-X

SMRX IN ACTION

ILLUSTRATIVE X-CONFIGURATION OF THE MODULAR SYSTEM



AI-generated image – fictional illustration

Accelerator container shown in the illustration serves as the control unit for the accelerator assembly installed in a separate container beneath the concrete slab. The underground assembly is not visible in this illustration.

USE CASES

EXPANDING BEYOND CONVENTIONAL SMR APPLICATIONS

Positioned in the 10 - 20 MW sweet spot – one of the largest addressable energy markets in the world (TAM – Total Addressable Market).
SMRX units can be combined to provide an optimal level of system redundancy and operational resilience.



Hydrogen Production

High-temp heat for efficient H₂ thermolysis



AI & Data Centers

On-site power for AI.
No grid dependency



Critical Infrastructure & Military

Self-sustaining energy for vital facilities



Enhances Wind & Solar

Stable baseload for intermittent renewables



Upgrade Existing Power Plants

Replace oil/gas/coal/conventional nuclear
Enhance with modules



Energy-Intensive Industries

Direct heat, H₂, electricity for steel, chemical, aluminum



AI-generated image - fictional illustration



AI-generated image - fictional illustration



Drying process in the food industry



Carbon-Free Real Estate

1 ADES = 10,000 homes



Grid Integration & Stability

Redundancy and support for existing District Heat & Power Grids



Emerging Markets & Remote Areas

Deploy anywhere - Desalination & island water supply



E-Mobility Charging

Universal EV charging at any location



Ship Propulsion & Aviation

Maritime energy & e-fuels for airplanes

NO WATER NEEDED!

SMRX – SUBCRITICAL MICROMODULAR REACTOR

ONE SYSTEM – CONTAINER SIZE – MODULAR & SCALABLE

DUALstorePLUS

Hybrid energy Storage System · Modular 5–100 MWh

Stand-alone product.
Bankable 20-year EaaS contracts.

TRL 6.5 / 9
3 components

E-store

Battery Storage (BESS)

5 MWh LFP battery per module. ≥8,000 cycles
~94% efficiency

USED IN

- ✓ DUALstorePLUS
- ✓ SMRX



CALstore

Heat Storage (TES)

5 MWh molten salt per module. 200–550°C
>20-year lifecycle

USED IN

- ✓ DUALstorePLUS
- ✓ SMRX



MCU

Master Control Unit

Orchestrates thermal & electrical flows. Grid integration.

USED IN

- ✓ DUALstorePLUS
- ✓ SMRX

ADES

Energy Generator · Subcritical Micromodular Reactor

DUALstorePLUS platform + thorium generator.
The full SMR-class system.
EU SMR policy aligned.

TRL 4.5 / 9
4–5 components

Converter

Output Converter

Heat → Power / Hydrogen / Process Heat
Client-specific

USED IN

- DUALstorePLUS
- ✓ SMRX (opt.)

ADES

Thorium based – Accelerator Driven – Molten Salt Generator

25 MW(th) Subcritical. 20 years no refueling
Significant less transuranic waste

USED IN

- DUALstorePLUS
- ✓ SMRX



Modular by design — DUALstorePLUS configurable 0–10 modules per E-store / CALstore. SMRX combines multiple ADES modules for higher capacity.

By operating ADES under an Energy-as-a-Service (EaaS) model, every unit remains under continuous supervision. This enhances operational safety, enables predictive maintenance, and helps protect proprietary technology from unauthorized access or replication.

WHAT IS ADES?

ACCELERATOR DRIVEN ENERGY SOURCE

The Concept: Thorium + Particle Accelerator + X-Amplifier → CO₂-free energy

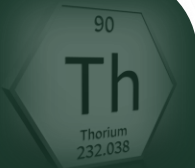
Pioneer: Carlo Rubbia

Nobel Prize in Physics 1984, CERN Director

Pioneer of the Energy Amplifier concept - the scientific foundation of ADES

Why Thorium?

- 3x more abundant than uranium
- 300-400x more abundant than U-235
- Byproduct of the mining industry
- ~0% transuranic waste



4 Key Factors



Mini-Modular
Compact and scalable



Progressive Thorium Fuel Cycle
uranium-assisted start-up;
final goal: no added uranium



Subcritical
No critical chain reaction



ON/OFF Switch
Controllable neutron injector

Energy Density Comparison

Allows a runtime of 20 years without refueling

2,800,000 barrels of oil
= 0.34 barrels of thorium
Both deliver 4.4 TWh of energy



VDL GROEP

INDUSTRIALIZATION PARTNER & KEY DE-RISKING ELEMENT



Significantly increases the probability of success

VDL builds the first SMRX factory at its own site. The factory itself is the blueprint: further plants are replicated copy-exact in additional countries.

CO-DEVELOPMENT & MANUFACTURING CONFIRMED

5-month due diligence

What VDL delivers for Emerald Horizon



CALstore → Serial Production

TRL 6 prototype transferred to industrial manufacturing at VDL. Assembly, integration, QA.



ADES Co-Development

Joint development of Energy Generator modules. Precision engineering & production scale-up.



Supply Chain & Logistics

Global procurement infrastructure. No proprietary factory needed (asset-light model).



Certification & QA

Industrial quality standards, certification & compliance for global deployment.



INVESTOR DE-RISKING

No factory CAPEX; proven Tier-1 partner; replication risk, not engineering risk; reduced timing risk; reduced failure risk; reduced scalability risk

€4.06bn

Annual Turnover

100+

Companies

22

Countries

€190M

R&D / year

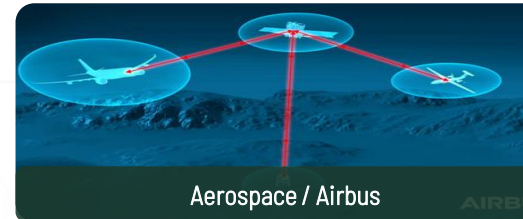
VDL: 13,500+ people -Precision engineering, system integration & serial manufacturing at scale



ASML / nm-Lithography



3D-Printing / Additive



Aerospace / Airbus



Accelerators / CERN

Manufacturing de-risked: Asset-light co-development | No mega-plant risk | Modular production confines capital-at-risk | Haskoning: regulatory strategy

VDL Groep: ASML supplier | PALLAS reactor partner | Thorizon MSR co-developer | European Industrial Alliance on SMR member

REGULATORY DE-RISKING

NON-CRITICAL PATHWAY DUAL IDEAL WITH FLEET REGULATION

Significant
risk
reduction

1. NON-Nuclear

DUALstorePLUS

Conventional NON-Nuclear
storage product pathway

- ✓ Zero nuclear regulatory friction
- ✓ Standard industrial permitting
- ✓ Ready for order Q3 2026
- ✓ Bankable 20-year EaaS contracts
- ✓ Already validated EaaS cycle
(Raiffeisen Bank financing)

DUALstore PLUS

INFCIRC/153 §104: Thorium
= 0.00005 ekg/kg
20,000× less safeguards weight
than Plutonium

2. Regulator-friendly Strategy



3× Regulatory Friendly
Technical Facts



3× Regulatory Friendly
Countries



3× Regulatory Friendly
Expert Teams



No critical chain reaction

- no risk of explosion
- instant OFF switch
- subcritical amplification



Plan for the future : No Uranium added

- Uranium in early SMRX versions
- Some transuranics may form
- Final goal: no externally added uranium



No refueling for 20 years

- no constant transport of
proliferation material
- minimal operational risk

→ USA

Established NRC framework
Pillsbury classification ongoing
Non-reactor or limited NRC path

→ Slovakia

Nuclear-friendly jurisdiction
ADES prototype location
€75–100M state incentives

→ Netherlands (VDL)

EU Industrial Alliance on SMRs
VDL co-development & manufacturing
EU regulatory pathway

→ Pillsbury

Winthrop Shaw Pittman LLP
Tier-1 U.S. nuclear & regulatory law firm
Formal U.S. regulatory classification
+ licensing assessment (paid-in)



→ Emerald Horizon

Internal Regulatory Team
INFCIRC/153 analysis completed
Effective Kilogram framework mapped
Dual-country regulatory strategy

→ Haskoning

Netherlands
EU regulatory pathway support
Technical validation throughout
regulatory process



ADES (Accelerator Driven Energy Source)

Where ADES sits on the regulatory spectrum

Conventional Nuclear

Critical chain reaction
Pu / HEU • Meltdown risk
10–20 yr licensing

SMRs / Gen IV

Simplified licensing
Some still critical
5–10 yr process

ADES

Subcritical
Expected low safeguards tier &
fast-track licensing

Note: Emerald Horizon has engaged **Pillsbury Winthrop Shaw Pittman LLP**, a Tier-1 U.S. nuclear and regulatory law firm, to conduct the formal **U.S. regulatory classification and licensing assessment** of its accelerator-driven, subcritical energy system. The objective is to determine whether the technology proceeds under **(i) a non-reactor, accelerator/radiation licensing pathway** or **(ii) a limited NRC advanced-nuclear framework**, establishing a clear, bankable U.S. regulatory route.

IAEA INFCIRC/153 (Corrected), June 1972. Regulatory partners: Pillsbury (USA), Haskoning (NL), Emerald Horizon internal regulatory analysis.

INCOME DE-RISKING - X-MULTIPLIER

TARGETING ATTRACTIVE & PREDICTABLE PRICE FOR CLIENTS AND PROFIT FOR INVESTORS

emerald horizon 

Target:
Flex margin

Our aim is to buffer potential cost overruns through the flex margin.

Aiming to create additional negotiation flexibility on prices and terms

emerald horizon 
Energy. Everywhere.

MARKET PRICE, INDUSTRY DE incl. grid, levies, taxes

18,0 ct/kWh

-9.5 ct savings

MARKET PRICE ON-SITE without grid fee

11,5 ct/kWh

-3.0 ct savings

SMRX CONTRACT PRICE Energy as a Service - target price

8,5 ct/kWh

OWN COSTS

2,2 ct

SMRX FIXED PROFIT

3,8 ct

FLEX MARGIN

2,5 ct

THE CENTRAL METRIC

3.8 ct/kWh fixed profit × 250 SMRX = €790 million profit p. a.

CUSTOMER TARGET PRICE

8,5 ct/kWh

SMRX FIXED PROFIT

3,8 ct/kWh

PROFIT P. A. - 250 SMRX

790 Mio. €

X Multiplication
Profits multiply over time
Modules × Annual Profit × Years
Transforms
Aiming to build a scalable,
long-term value business

Illustrative calculation based on stated assumptions; actual results may differ.

The target price of 8.5 ct/kWh is well below the industrial market price – the customer saves, SMRX earns a fixed margin. It is precisely this two-sided logic that makes the model viable.

For context: at the current market capitalization, the Company is valued at roughly 1.5x the annual profit of a single 250-module reference package – undiscounted, not probability-weighted, and years out. We state the arithmetic. The discount rate and the probability are yours.

THE 10MW SWEET SPOT FOR SCALABILITY

MAXIMUM IMPACT & MINIMUM RISK

Longest possible use-case list

10 MW is large enough to cover many markets – and small enough to remain flexible. Addressing one of the largest energy markets in the world (TAM).

Container-based Design & Scalable Technology

Built on proven technologies, enabling global, cost-efficient logistics and scalable serial production.



Strong financial returns with Energy as a Service

At 10 MW, SMRX reaches an economically viable scale and generates a 3.8 ct/kWh ROI for the investor.

Suitable for fleet regulation

The 10 MW class can be efficiently integrated into standardized fleet solutions – ideal for regulatory frameworks and rapid rollout across multiple countries

THE COMPANY IN ONE PAGE

WHO WE ARE

Emerald Horizon AG

Deep-tech scale-up building the platform behind Europe's clean-power policy: modular energy storage today, SMR-class generation tomorrow.



Graz, Austria · Vienna Stock Exchange listing 26 June 2026



Founded 2019 · Year 7 of 10-year master plan



50+ specialists · Tier-1 partners across 3 continents



Multi-level de-risking · on schedule, in parameters

Energy. Everywhere.

Two products. One platform. A policy tailwind.

COMPANY & AMBITION

A 10-year master plan to industrial-scale clean power

Founded 2019, Emerald Horizon develops both an advanced modular, shipping-container-sized, energy-storage system and an accelerator-driven thorium generator. The end goal: hand both products over to full-scale serial production with Tier-1 manufacturing partners.

WHAT WE BUILD

DUALstorePLUS today · SMRX tomorrow · Energy as a Service (EaaS)

DUALstorePLUS

Modular energy storage · 5–100 MWh

In-market 2026 · Path to TRL 9 · Serial production with VDL

SMRX

Storage + thorium generator · SMR-class system

Deploy 2031+ · Path to TRL 9 prototype · EU SMR policy aligned

HOW WE EXECUTE

Multi-level de-risking — technical, regulatory, commercial

Co-development with VDL Groep (EUR 4.06bn revenue, 13,500+ specialists, ASML/PALLAS-tier). U.S. regulatory pathway with Pillsbury LLP. EU pathway with Haskoning. Project on schedule, within defined parameters — entering year 7 of 10.

POLITICAL TAILWIND: EU SMR Strategy, 10 March 2026 — first SMRs operational in Europe by the early 2030s, backed by a EU investment guarantee. European Commission (PINC 2025): €241bn of nuclear investment needed by 2050. European SMR Industrial Alliance: 17–53 GW of SMR capacity by 2050.

LISTING MILESTONE ON THE VIENNA STOCK EXCHANGE SINCE JUNE 26TH 2026

Ticker: **SMRX** (Vienna Stock Exchange) ISIN AT0000A3UZE1

Company: **Emerald Horizon AG**

Group Structure: **3 subsidiaries (USA, Slovakia, EaaS spv) and 2 equity participations**

Capital Markets Advisor: **Wiener Privatbank AG**

Corporate Brokerage: **Baader Bank AG**

Designated Sponsors / Market Makers: **Baader Bank AG / Hauck Aufhäuser Lampe Privatbank AG**

Legal Counsel: **Müller Partner Rechtsanwälte - Mag. Wilfling**

Research Coverage: **NuWays AG** - Initiated with a BUY rating and a €1,300 price target.

<https://www.nuways-ag.com/research/accelerating-the-future-of-clean-energy-initiate-with-buy>

Market cap: **€1.127bn**

Issued Shares: **1,049,375**

Free Float and Other Shareholders: **~25.3%**

Company philosophy: **Growth now, on the long run value**

The company is subject to several material risks, including its pre-revenue stage, integration risk, capital intensity, an unproven regulatory pathway, and limited price discovery, which are summarized in the Appendix.

Share Price Development – SMRX
End-of-day share price development since the first trading day



Past performance is not indicative of future results. Any projections, forecasts, or expected returns are illustrative only and are not guarantees of future performance.

 **NuWays**

RECOMMENDATION		BUY
TARGET	EUR 1,300.00	
UPSIDE	+35.6%	
PREVIOUS	EUR 1,300.00 BUY	

DUALstorePLUS



ENERGY STORAGE



Inputs:

Electricity
from

PV | Wind
Grid

and/or
HEAT



Proven EaaS contracting
through PV contracting

ADES-Ready
Integral Component

Deployable
Worldwide

Hybrid storage combining heat (TESS) & electricity (BESS).

Stand-alone product today – integral building block for the Thorium Generator (ADES) tomorrow.
Configurable to client-needs : 0-10 modules per TESS or BESS + 1 MCU – AI Control module.
E-Store is externally sourced, enabling faster implementation with no R&D risk.

ORDER NOW – DELIVERY SOON

E-store 4 months | CALstore 20 months



MCU – AI Control

Function	Orchestrates thermal & electrical flows
Grid	Peak shaving, frequency response
PLUS	Sells surplus to grid
Integration	P2H, H2H, H2P modes
Container	20- or 40-ft HC



CALstore (TESS)

Capacity	5 MWh (th) per unit
Power	500 kW(th) + 500 kW(el)
Efficiency	>95% h2h >98% p2h
Temp.	200–550°C (Solar salt)
Lifecycle	Minimal degrad. >20 yrs



E-store (BESS)

Capacity	~5 MWh (el) LFP
Cycles	≥ 8,000 @25°C
Efficiency	~94% roundtrip
Rating	IP55 / C4
Delivery	~4 months

STRATEGIC DUAL ROLE

TODAY Stand-alone product. Store & optimize existing energy. Bankable 20-year EaaS contracts.

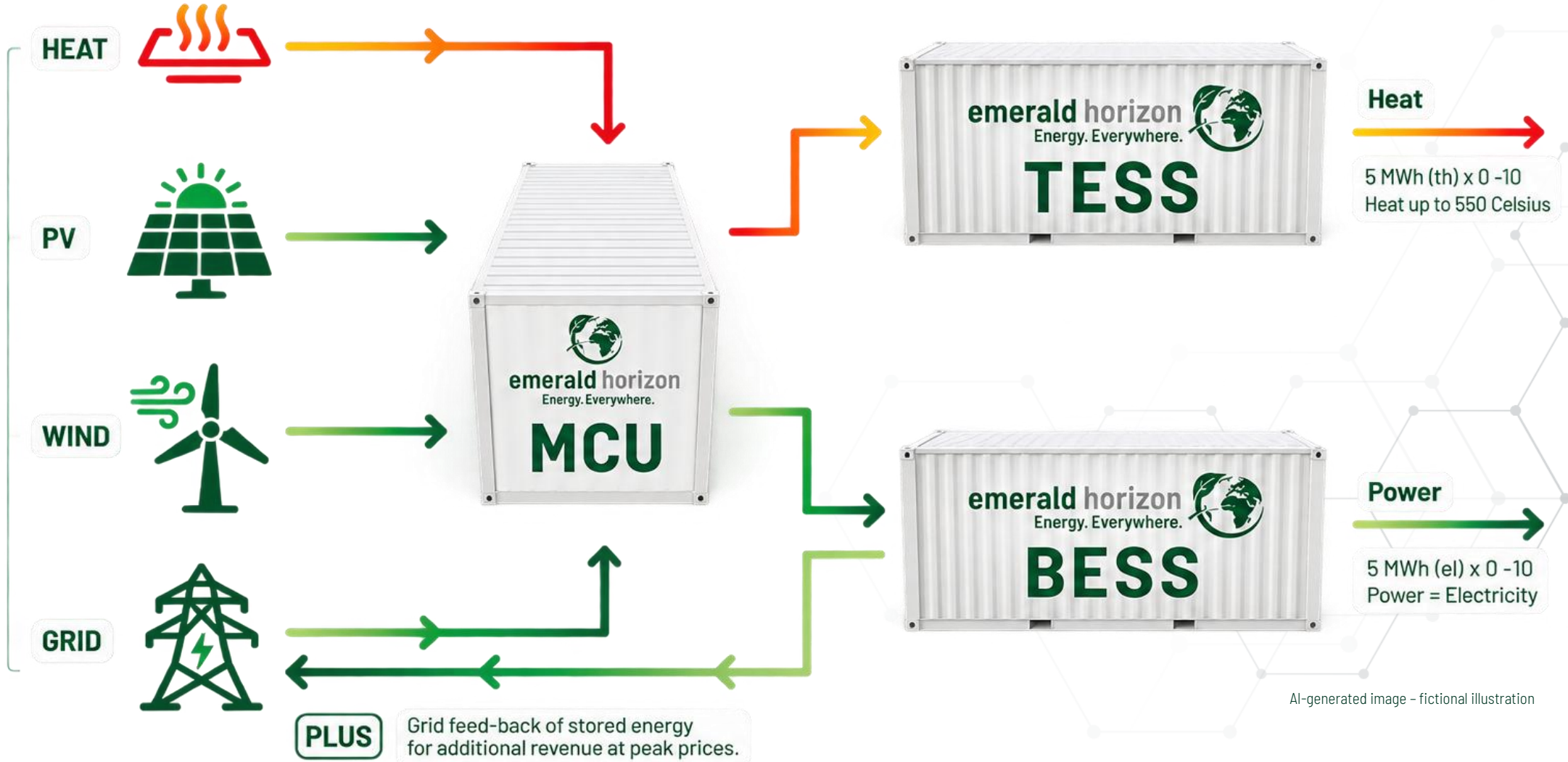
TOMORROW ADES building block. Thorium Generator plugs in → not just store but generate carbon-free energy.

- ✓ EaaS Proven – Raiffeisen Financed
- ✓ ADES-Ready – Integral Component
- ✓ Deployable Worldwide

DUALstorePLUS

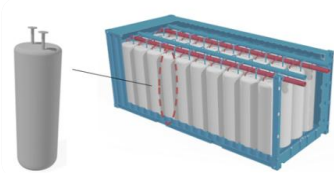
HOW IT WORKS

DUAL input
DUAL output



AI-generated image - fictional illustration

1 Cell -> 1 Container -> Serial Production @ VDL



5 MWh molten salt heat storage – stand-alone & integral building block for ADES.

Stand-alone product + Part of DUALstorePLUS + Integral to ADES → With ADES: not just storage – carbon-free energy generation



Extreme Temperature Range: 200–550°C

Solar salt (KNO₃/NaNO₃). Reliable in extreme ambient conditions.



High Energy Density – 5 MWh

150–200 kWh/m³ (vs. water: 60–80 kWh/m³). Compact footprint.



Entirely Water-Free & Pressure-Free

Zero vapor pressure or detonation risk. No steam, no overpressure.



3 Operating Modes

Power2Heat | Heat2Heat (waste heat) | Heat2Power (re-electrification)



Adaptable & Mass-Production Ready

Salt mix & capacity configurable. Serial production via VDL Groep.



Minimal Lifetime Degradation

Near-constant capacity over >20 years. Unlimited cycling. Low maintenance.

Target: Chemical | Pharma | Steel & Metal | Paper | Food & Feed | Cement

PROTOTYPE CELL

READY & VALIDATED

Government-funded (FFG) – Ongoing audits



KEY SPECIFICATIONS

Capacity	5 MWh (th) per unit
Charge / Discharge	500 kW (th) 500 kW (el)
Efficiency	>95% h2h >98% p2h
Temperature	200 – 550°C (Solar salt)
Cycling	Unlimited Minimal degradation
Lifetime	> 20 years
TRL	6+ → serial production with VDL

ENERGY DENSITY COMPARISON

Medium	Temp.	Density	Pressure
Water	20–100°C	60–80 kWh/m ³	High!
Molten Salt	200–550°C	150–200 kWh/m ³	None!

SMR^X

ADES & DUALstorePLUS



and



ENERGY PRODUCTION INCL. STORAGE



FUSION of 5 Core Components



Injector (Accelerator)

Generates protons/neutrons to initiate and control the thorium reaction



X-Amplifier Box

Amplifies the neutron flux from the accelerator



Subcritical Thorium Molten Salt Loop

Thorium in molten salt circulates as fuel and coolant simultaneously



HTHX (Heat Exchanger)

Transfers high-temperature heat to the energy conversion system



Containment & Shielding

Isolation and shielding ensures safe operation

Prototype Status

TRL 4.5

VDL as Tier-1 partner

Co-development to TRL 9

Serial product est. 2031

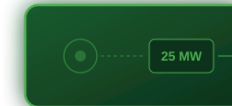
1 ADES ~ 25 MW

(thermal) · ~10 MW electric · 20-year lifetime

Scalable: combine multiple ADES modules for higher demand

Converter Modules (client-specific)

ADES MODULE



Accelerator Driven Energy Source
25 MW(th) · 10 MW(el) · Container-sized · 20 years



Heat to Power Electricity



Heat to Hydrogen H₂ production



Heat to Heat Process heat

Plug-and-Play | Minimal Maintenance

Deliverable and installable worldwide | Low OPEX | 20 years without refueling

Ideal for global distribution & high scalability

The scalable and risk-optimized solution for CO₂-free energy



ON/OFF switch

- ADES features a **passive-safe ON/OFF** control unit.



AI-powered optimization

- ADES leverages **AI** to **adjust its power output** based on the installation location.
- ADES thereby ensures **optimal performance** in **diverse environments**.



Progressively reduced nuclear waste

- Early SMRX versions may use uranium and generate some transuranics.
- Successive generations aim to minimize uranium use and long-lived waste.
- Final target: thorium-based operation without added uranium.



Subcritical by Design

- All SMRX generations are designed for subcritical operation.
- Accelerator-controlled fission power with dedicated decay-heat management.
- Water-free primary salt circuit.



Minimal maintenance

- Designed for limited routine maintenance.
- Long-term target: up to 20 years without refueling.
- Low operating expenses (OPEX)

1 x ADES module: 25 MW(th)= 10 MW(el) for 20 years



.. can be combined to achieve higher energy output



.. can be delivered worldwide



CONFIDENTIAL

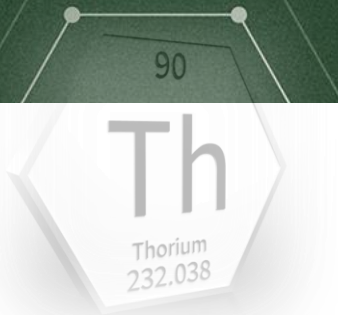
Emerald LaboraTHorium
Karl-Huber-Gasse 15
A-8041 Graz
www.emerald-horizon.com

SMR X

SUBCRITICAL MICROMODULAR REACTOR

ENERGY STORAGE & ENERGY GENERATION





APPENDIX DE-RISKING

APPENDIX

DE-RISKING OVERVIEW

READ THIS APPENDIX
AS A MAP

01 RISK

State it openly

02 DE-RISKING

Show the mitigant

03 EVIDENCE

Turn the page

De-risking reduces risk.
It does not eliminate it.

Most Likely Risk:
delays in project execution

Five material risks. Five de-risking responses. The following pages show the evidence.

THE RISK	HOW EMERALD IS DE-RISKING IT	EVIDENCE
01 PRE-REVENUE FY25 revenue: €0.2m. Group breakeven not expected before 2029e.	DUALstorePLUS EARNS FIRST Non-nuclear product, planned for market entry in 2026 and structured around 20-year EaaS contracts. Storage revenue is designed to begin before ADES/SMRX. Beyond this, the broader PIER Group remains pre-income until commercial revenues from its advanced nuclear business commence.	TIMING & READINESS → p. 28–30
02 INTEGRATION RISK ADES is at TRL 4.5. Components exist; the integrated system is not yet demonstrated.	TIER-1 INDUSTRIALISATION FROM THE PROTOTYPE STAGE VDL Groep co-develops and industrializes from prototype to serial manufacture. Independent literature supports the underlying physics; the remaining program is integration, commissioning and scale-up.	TECHNICAL DE-RISKING → p. 25–32
03 CAPITAL INTENSITY €75m prototype assumption plus up to €150m for industrial scale-up; fleet deployment requires project finance.	MODULAR, ASSET-LIGHT CAPITAL MODEL No proprietary mega-factory, no 1 GW megaproject and less transmission build-out at point of use. Founder/co-investor capital and grants support the prototype; long-term EaaS/PPA cash flows are intended to support fleet debt.	FINANCIAL DE-RISKING → p. 22–23
04 REGULATORY PATHWAY Final U.S./EU classification and licensing route for ADES are not yet confirmed.	THREE FACTS · THREE JURISDICTIONS · THREE TEAMS Subcritical operation, an external ON/OFF neutron source and no Pu/HEU added as initial fissile fuel are being assessed in the U.S., Slovakia and the Netherlands. DUALstorePLUS follows standard non-nuclear permitting.	REGULATORY DE-RISKING → p. 24
05 VALUATION / PRICE DISCOVERY Pre-revenue status and the significant addressable market introduce a broad range of potential valuation outcomes.	ONE AUDITABLE UNIT-ECONOMICS DRIVER Every valuation scenario traces to one operating metric: a potential 3.8 ct/kWh target contribution net earnings after the 2.5 ct/kWh full-cost and risk reserve — multiplied by output, availability and module count.	INCOME DE-RISKING → p. 33

Selected risks only; not exhaustive. De-risking measures reduce but do not eliminate risk. FY25 revenue and breakeven estimates: NuWays AG, 23 Jul 2026. Full risk factors: FMA-approved prospectus. Page references assume insertion immediately after the current appendix cover.

TEAM DE-RISKING

BRAINS BEHIND EMERALD HORIZON



EXECUTIVE TEAM

Leaders with experience at the World Bank, the IMF, the ECB, the Austrian National Bank and in the Austrian federal government.

CEO Florian Wagner *Capital Markets & IPO*

Founder of Emerald Horizon;
Multi-award-winning international
fund manager. 20+ years capital
markets experience across EU & US.
Leads IPO preparation and exit strategy for
investors

Prof. Dr. Robert Holzmann *VP International Relations*

fmr. Austrian National Bank Governor
& ECB Governing Council member;
World Bank Sector Director; IMF; OECD.
Key for EaaS credits & EU Green Bonds
(EU Taxonomy / Sustainable Finance
Regulation aligned)

Ing. Norbert Hofer, MBA *VP Strategic Communications*

fmr. Federal Minister for Transport,
Innovation & Technology; served as Government
Coordinator; chaired transport-related work during
Austria's 2018 EU Council Presidency; contributed to
Austria's #mission2030 climate & energy strategy
Leading the infrastructure deployment of
DUALstorePLUS projects

DI Dr. Mario J. Müller *VP Accelerator Technology*

Ex-CERN physicist.
Central for ADES accelerator development.
Bridges medical accelerator (AD-BNCT)
and energy accelerator IP.
Deep expertise in particle physics and neutron
transport interactions

MMag. Philipp Pölzl *VP Operations*

Co-Founder of Emerald Horizon AG;
dual degrees in Business Administration & Law;
University of St. Gallen (HSG) & Texas Tech University
(USA);
Overseeing corporate operations, compliance & R&D
alignment – ensuring operational integrity during rapid
growth phases.



SCIENTIFIC TEAM

Experts in nuclear physics, accelerator technology (ex-CERN), mechanical engineering, electrical engineering, molten salt chemistry, and industrial manufacturing.

Nuclear Physics

Accelerator Tech

ex-CERN

Mech. Engineering

Electrical Engineering

Molten Salt

Industrial Manufacturing

AI



TIER-1 EXECUTION PARTNERS

For regulatory affairs, co-development, manufacturing, supply chain, and financial support.

VDL Groep

Co-Development &
Manufacturing
€4.06bn · 13,500+

Pillsbury LLP

U.S. Nuclear Regulatory
Classification
Tier-1 · Paid-in

Haskoning

EU Regulatory
Pathway
Tech validation

TU Graz

Scientific
Partnership
Academic R&D

PwC

Financial
Advisory
Audit & structure

FFG

Austrian Research
Funding
Govt. grants



Emerald LaboraTHorium

Full R&D facility: Assembly & Production, ADES Prototyping, Salt Preparation, MECH/CHEM/LASER/NUC/HOT Labs, ADES Workshop.



Note: Emerald Horizon AG is strictly non-political. Board members and advisors represent diverse professional backgrounds across the full political spectrum. Their involvement is exclusively based on domain expertise, not political affiliation.

FINANCIAL DE-RISKING

WE DON'T NEED BILLIONS IN EQUITY

Conventional
Plant Risk
Eliminated

€6,900M

1 GW Plant → Container-Size Modules

No large power plant construction risk. Modular container units eliminate megaproject cost overruns.

Grid
Infrastructure
Avoided

€3,086M

Distributed Grid → No Grid Infrastructure

No high-voltage transmission lines needed. Plug-and-play at point of use.

Factory
Costs
Eliminated

~€1,750M

No Own Factory → VDL Co-Development

VDL Groep's existing Tier-1 manufacturing infrastructure replaces need for greenfield factory.

EU Grants
Leverage

X equity multiplication

Slovakia Grants + additional Grants by using the tailwind

Slovakia non-dilutive cash relief (~€75-100M).

Prior
Contributions

Absorbed

Prior Equity + Know-How + Grants

Founders, early investors, FFG grants, and know-how contributions already paid in.

WHAT'S LEFT

€75M

€150M

Prototype and Serial Production

Should additional capital be required, it could be raised after prototype completion with limited dilution. The same applies if equity is required for EaaS rollout.

All figures illustrative. Based on Emerald Horizon internal analysis and comparable nuclear/energy infrastructure benchmarks.



X SCALABILITY
EaaS bankable
Green Bonds
to finance serial production -
debt instead of equity

FINANCIAL DE-RISKING

SEVERAL POTENTIAL FUNDING PATHWAYS

€75M SMRX – ADES prototype cost assumption

€50M for prototype development (TRL4.5->6) & €150M for industrial scale-up and series production (TRL 6-> 9)

1 Commitment from CEO Florian Wagner (Carl Page, Philipp Pölzl, ..) ✓
€5M initial investment + €20M follow-on investment = €25M total (EQS News ID: 2356964)

2 Two co-investors
€25M investment each (€50M total)

3 Shareholder Lombard Financing
Additional Lombard loans secured by shareholders and provided to Emerald Horizon on attractive terms

4 Lead Strategic Investor
Investor with extra benefits for the company

5 U.S. Subsidiary Capital Raise
Capital raised through the U.S. entity and allocated to the parent company

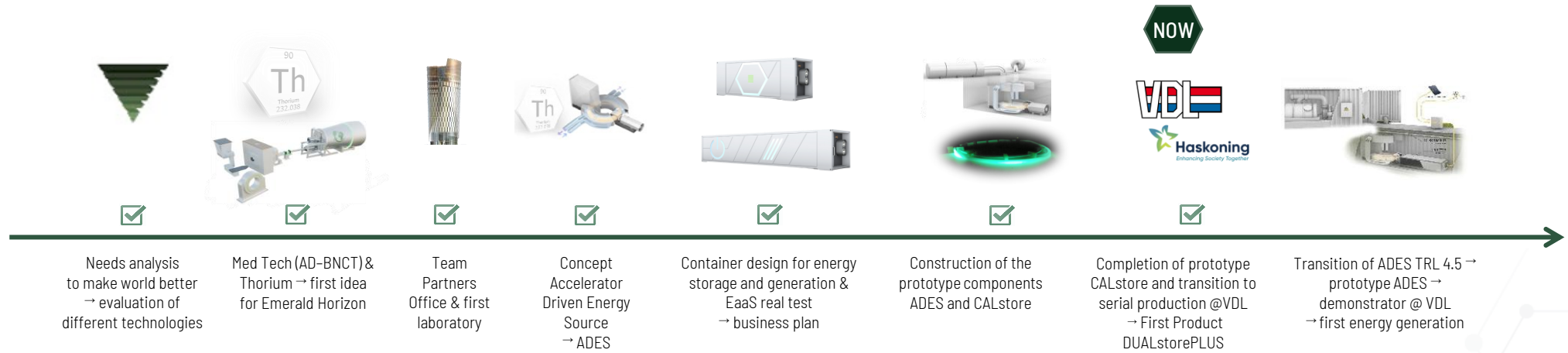
6 Equity Financing
Capital increase within the next three years, targeting €50M-€200M



X Multiplication
through potential
grants

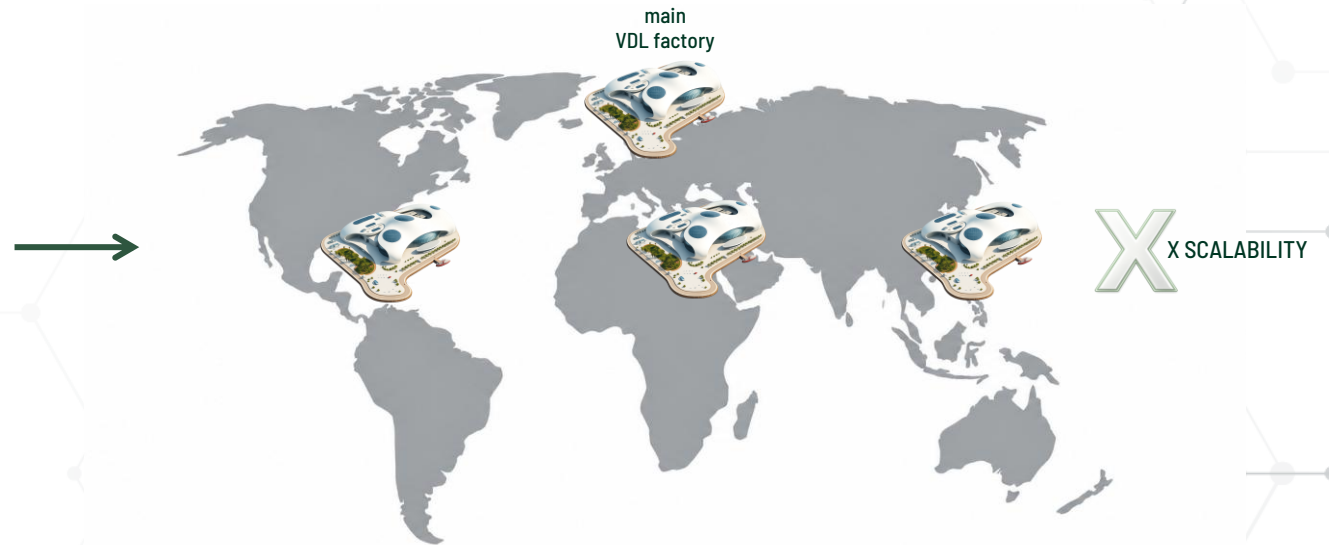
PROGRESS DE-RISKING

FROM IDEA TO SERIAL PRODUCTION – X SCALING



AI-generated image - fictional illustration

Completion of demonstrator ADES and transition to serial production @VDL
→ DUALstorePLUS + ADES = SMRX



To support the growing global demand, Emerald Horizon plans to expand its manufacturing footprint with additional production facilities in strategic locations, such as the USA, Japan, and the Middle East.



LEVEL 1
The Particle Accelerator

From their origins in medical applications to future laser-based technologies, particle accelerators continue to evolve. Emerald Horizon is developing an intermediate solution, controlled by a container located at the surface. In the underground layer below, multiple units are initially deployed, with their number gradually decreasing as the technology advances.



LEVEL 2 – MULTIPLECATION
The X-Amplifier Box

Neutrons are produced here and amplified to sufficient levels using a closely guarded, proprietary process.



Illustration for conceptual purposes only - AI generated



LEVEL 3 – ADES INNOVATION
Molten Salt Loop = ~25 MW(th) / net. ~10 MW(el)

Loop geometry enables continuous operation.

Instead of pulsed impulse-stop, the thorium-molten salt circulates in a closed loop through the neutron field. Continuous circulation through reaction zone allows subcritical neutron flux amplification up to 25 MW(th). Subcritical: switch off accelerator → reaction stops instantly. No meltdown risk. No chain reaction.



LEVEL 4 – GRID SCALE
100 Containers = ~1,000 MW(el) = ~1 GW

Identical modules deployed in parallel – at the location where energy is needed.

No large-scale grid infrastructure required – distributed generation eliminates transmission losses and costs. Thorium energy density: 1 load ≈ energy of a supertanker of oil (~4.4TWh). Extreme redundancy: if 1 of 100 modules fails, only 1% capacity lost (vs. conventional: 100% blackout).



WHY THIS WORKS



Proven Core Technology

TRL 9 accelerator technology is already proven in clinical cancer treatment (AD-BNCT).

Note: Medical particle accelerators are not powerful enough for SMRX.



20 Years

Thorium's energy density: 1 kg Th ≈ 3.5M kg coal. A single ADES load replaces an entire supertanker of oil – for 20 years.



Near Zero Transuranic Waste



2.8M Barrels of Oil = 1.2M Tons of CO₂

Thermal power averages ~270 g CO₂/kWh. ADES delivers <1 g/kWh including embodied carbon from materials and occasional grid draw.

CONVENTIONAL vs. ADES

	Conventional 1 GW Plant	ADES 100 Modules
Build time	10-20 years	Gradual ramp
CAPEX risk	\$10-35 bn all upfront	\$25M / unit scalable
Failure impact	100% blackout	1% loss
Grid needed	Massive	Not massive

ADES PROTOTYPE SETUP

CO-DEVELOPMENT - SERIAL PRODUCT TRL 9

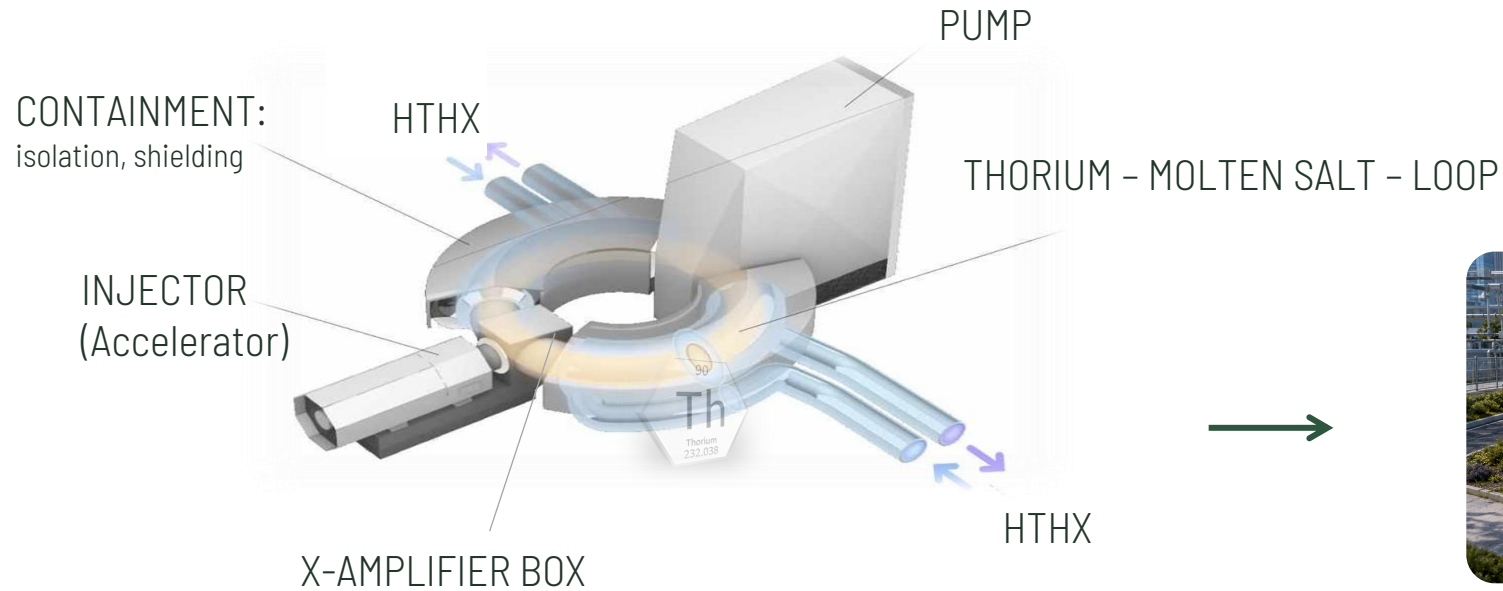


TIER-1 execution
partner

Co-Development
to achieve TRL 9

Manufacturing

Supply Chain



AI-generated image - fictional illustration

Reality check:
All prototype
components
already exist



Censored for security reasons

Continuous optimization of amplification and core geometry improves system performance with every new version, reflecting a steep learning curve and a continuous learning process.



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SMR

SUBCRITICAL MICROMODULAR REACTOR

X

ENERGY STORAGE & ENERGY GENERATION



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