

Case Study - Localization of CWHE

Successful implementation of local manufacturing in Russia



Christoph Seeholzer



Sankt Petersburg, 21.10.2021



Responsibilities:



- Provide CWHE knowhow
- Define design and manufacturing standards
- Support and supervision of production



- Implement Linde standards
- Define local standards



- Support with localization
- Support with workshop

Shareholder benefits:

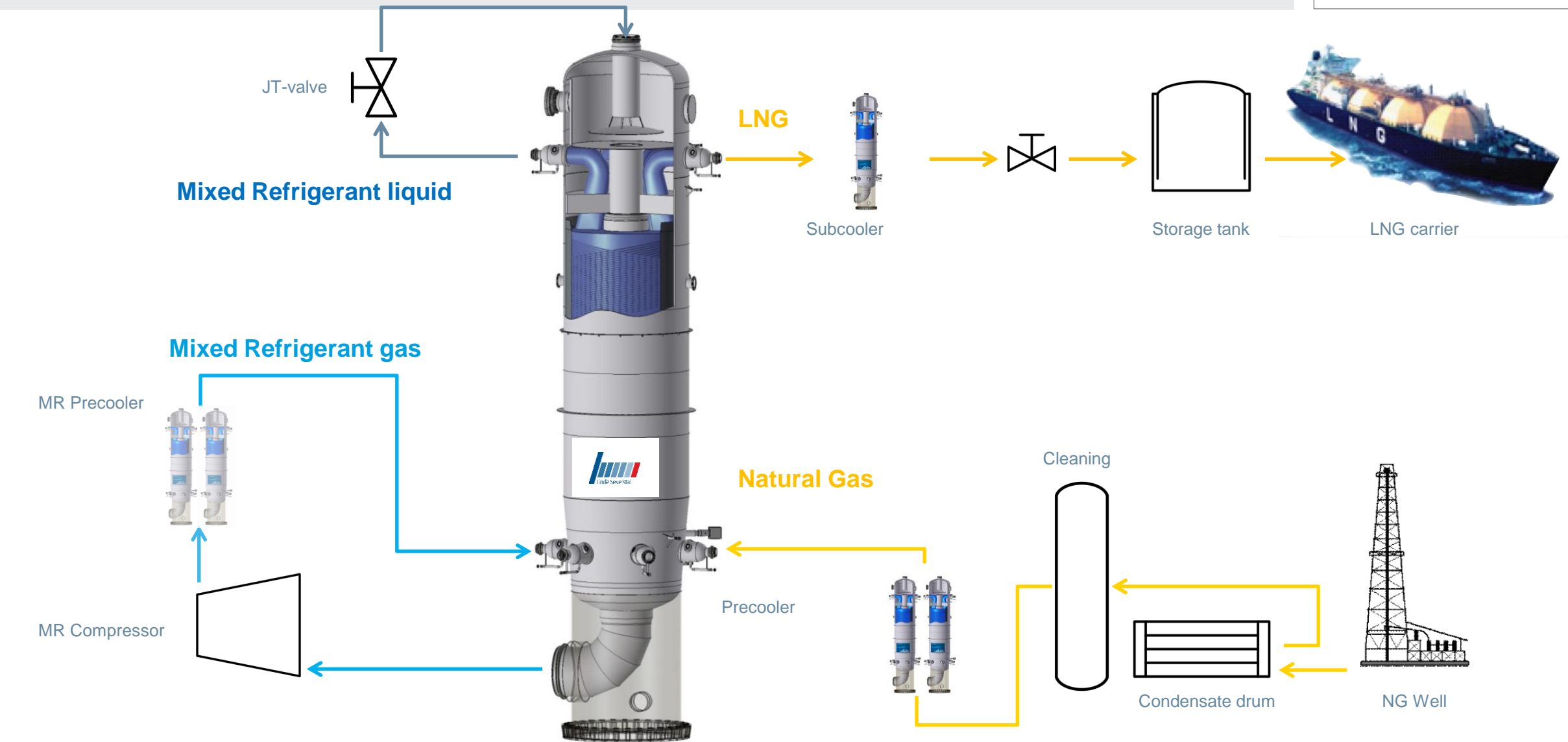


- Market access in Russia, additional sales possibilities
- Relationships with local customers
- Connections with authorities
- Local insider knowledge
- Participation on JV results
- Basis for fast new product launches (H2-equipment)

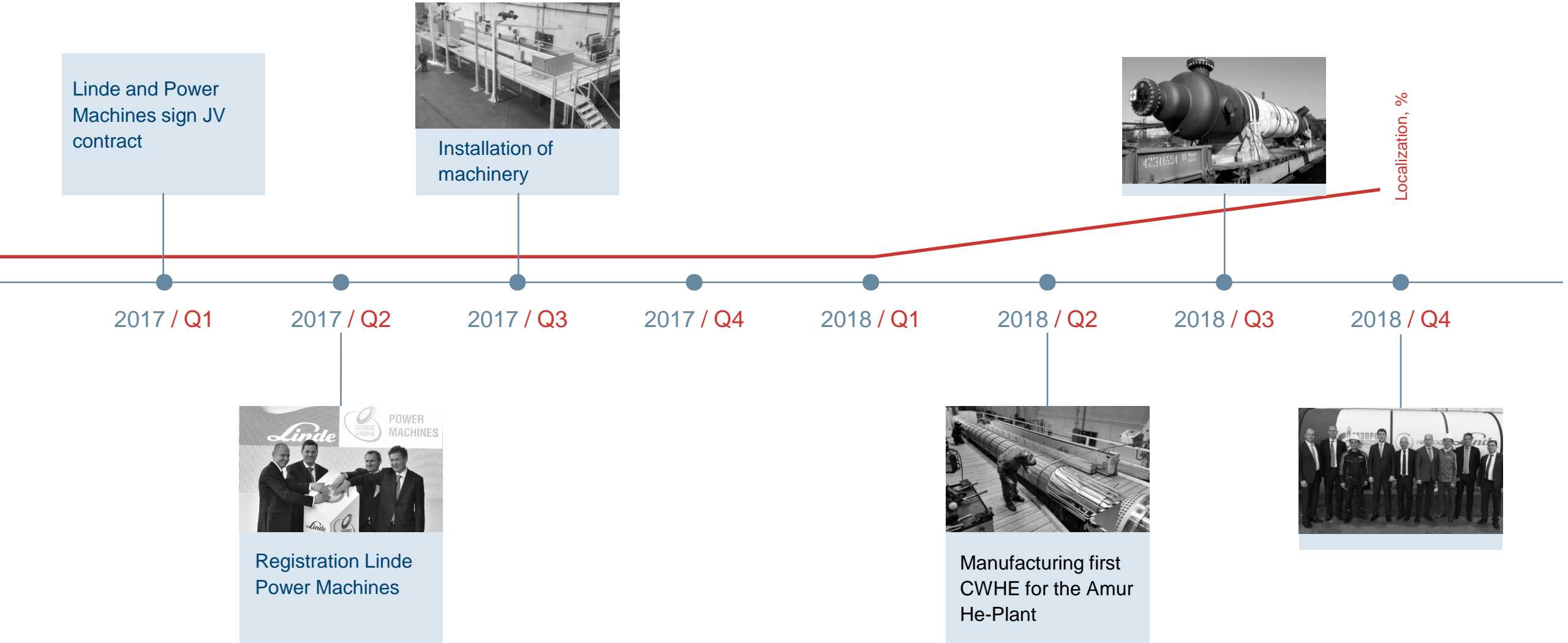


- Brand promotion
- Strengthen customer relations
- New customers
- Common projects and product developments with Linde
- Participation on JV results

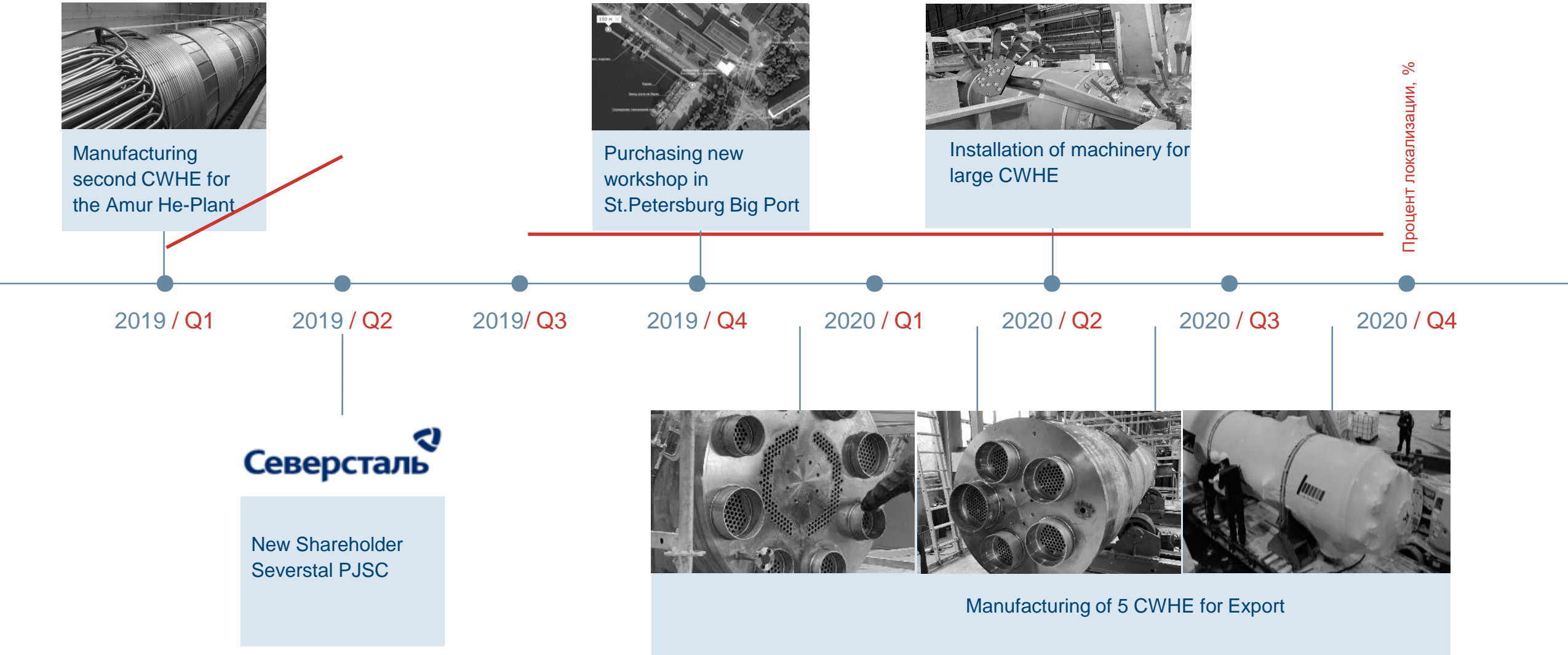
Coil-wound Heat Exchanger – Main Equipment in LNG Plants



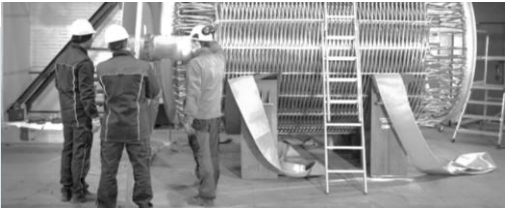
Linde Severstal LLC, Setup and first deliveries



Linde Severstal LLC, increasing local content and first export



Linde Severstal LLC, manufacturing of large LNG CWHE



Manufacturing of Oxygen Vaporizer (100% Russian content)



Manufacturing third CWHE for the Amur He-Plant



Localization, %

2021 / Q1

2021 / Q2

2021 / Q3

2021 / Q4

2022 / Q1

2022 / Q2

2022 / Q3

2022 / Q4



Manufacturing of first LNG CWHE bundle:
Weight 275 tons
Diam. 5 m, Length: 30 m
Installed tubes: 600 km

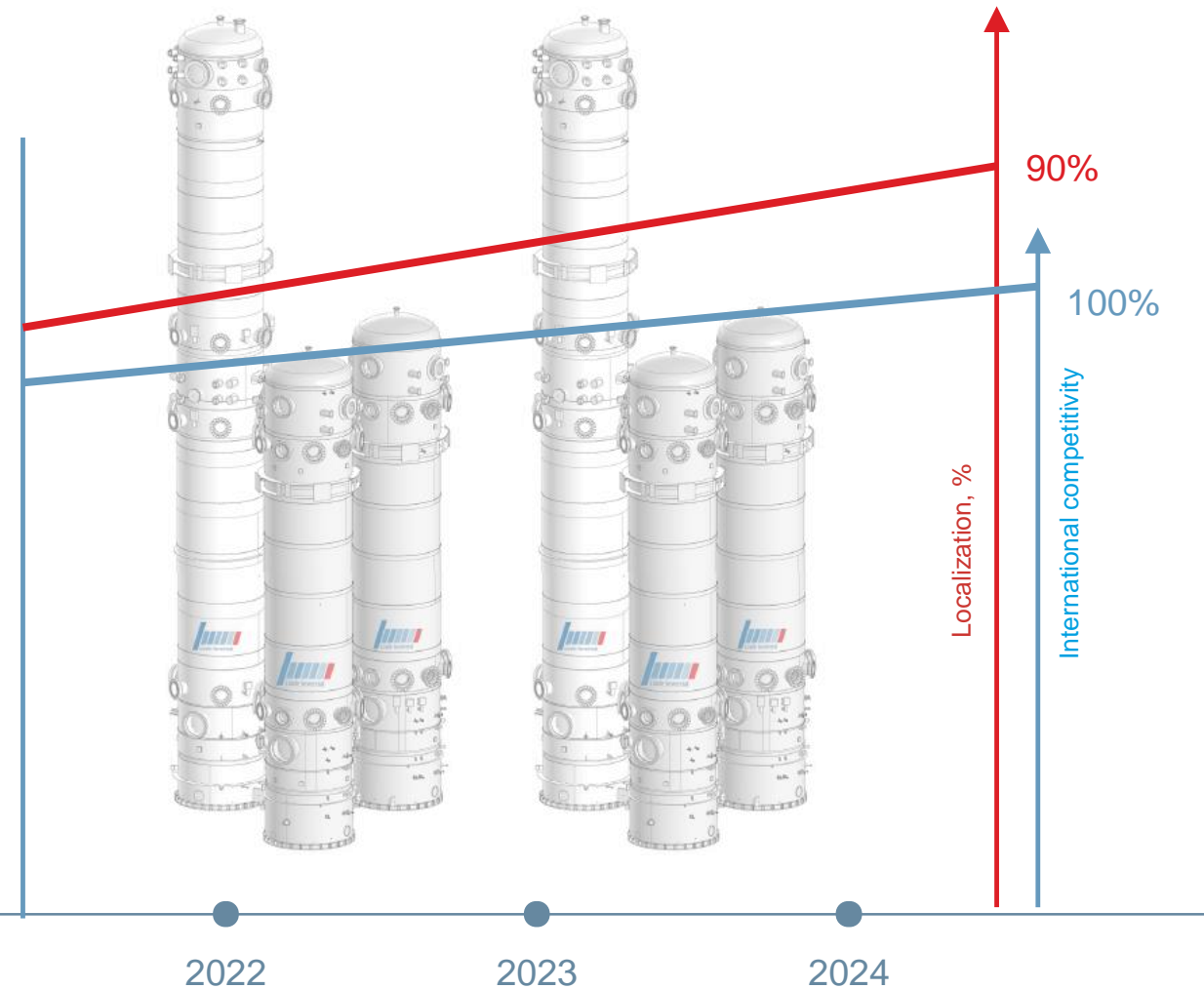
Manufacturing of 8 CWHE for Ust-Luga LNG plant

Linde Severstal LLC, Challenges and smart solutions



Successful Localization means high local content and international competitiveness by:

- Implementation of engineering competencies
 - Lean
 - Agile
- Maximization of local sourcing
 - Develop local suppliers
 - Implement and update standards
- Development of workers competences
 - Inhouse training programs
 - Cooperation with colleges



In preparation for localizing production in Russia ...

- 01 Prepare your strategy for know-how protection
- 02 Define specific training plans
- 03 Study local subsidies if necessary
- 04 Execute due-diligence with potential partners
- 05 Fix your essentials in a JV contract
- 06 Fix agreements with other stake holders





Thank you for your attention!

Christoph Seeholzer
Phone. +7 921 982 77 18
christoph.seeholzer@linde.com
www.linde.com

