Liftra

TURBINE INSTALLATION CRANE

EFFICIENT TURBINE INSTALLATION WITH THE LT1500 CRANE

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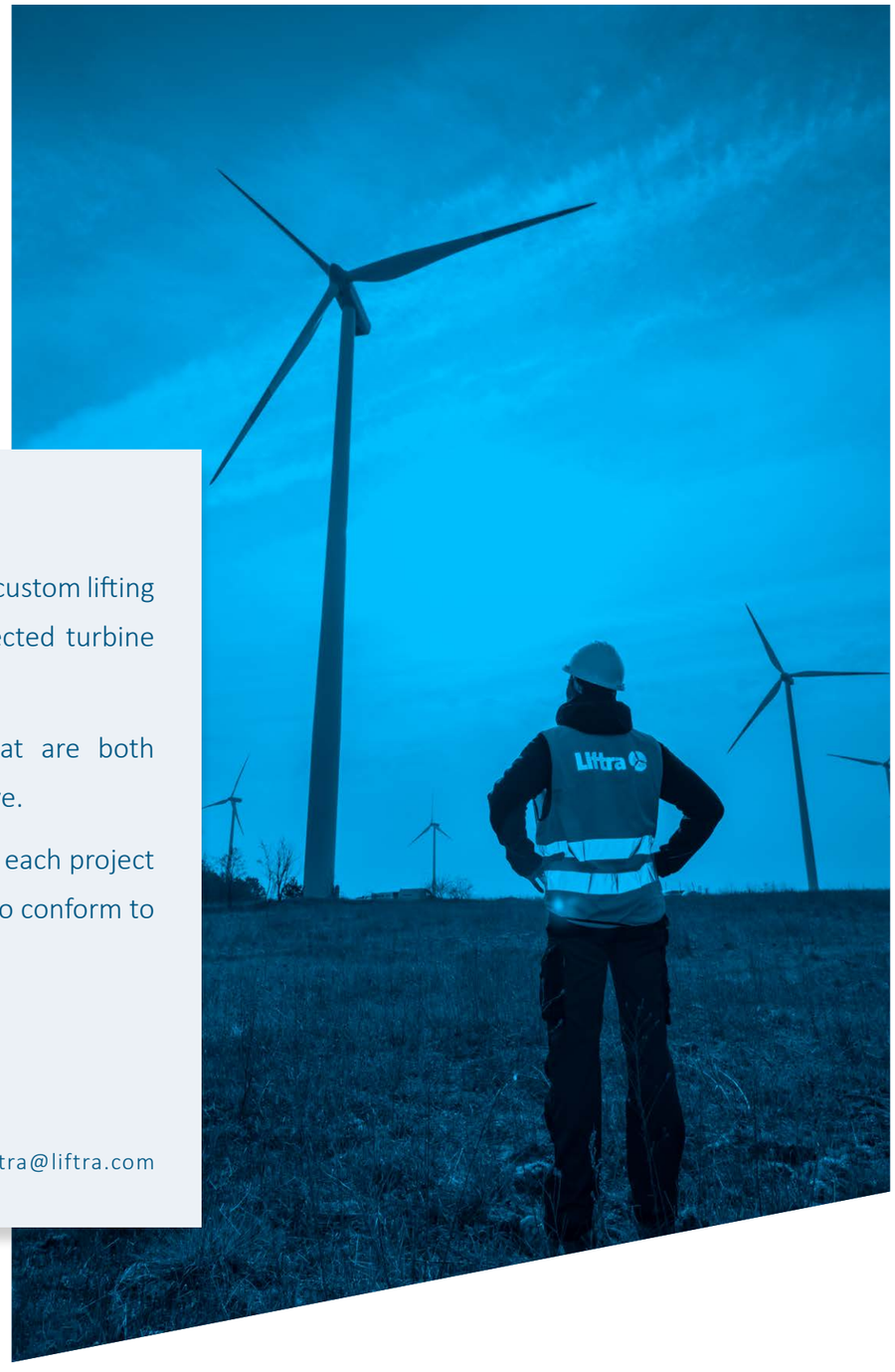

WHAT WE DO

At Liftra, we design and manufacture custom lifting and transportation solutions for selected turbine models.

We strive to develop solutions that are both technically and economically attractive.

Liftra accomplish this by approaching each project with an agile mindset and readiness to conform to the specific needs of the client.

FIND OUT MORE

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THE FUTURE CALLS FOR NEW SOLUTIONS

The LT1500 Installation Crane enables clients to install and maintain wind turbines with a hub height of up to 250m and component weight of up to 120 ton. While helping to achieve total cost competitiveness and sustainable CO_2-emissions.

A general trend towards larger wind turbines at remote locations, places new demands on installation cranes, and greatly impacts cost and accessibility of conventional cranes. The future calls for new solutions such as the LT1500 Installation Crane to address these challenges.

THE LT1500 INSTALLATION CRANE IS SET TO BE DEMONSTRATED IN 2026!

One of the largest wind farm developers in Europe has agreed to be the first to purchase turbine towers with flanges as the interface for the Installation Crane to demonstrate the LT1500 technology. The towers will be provided by one of the world's largest OEM's.

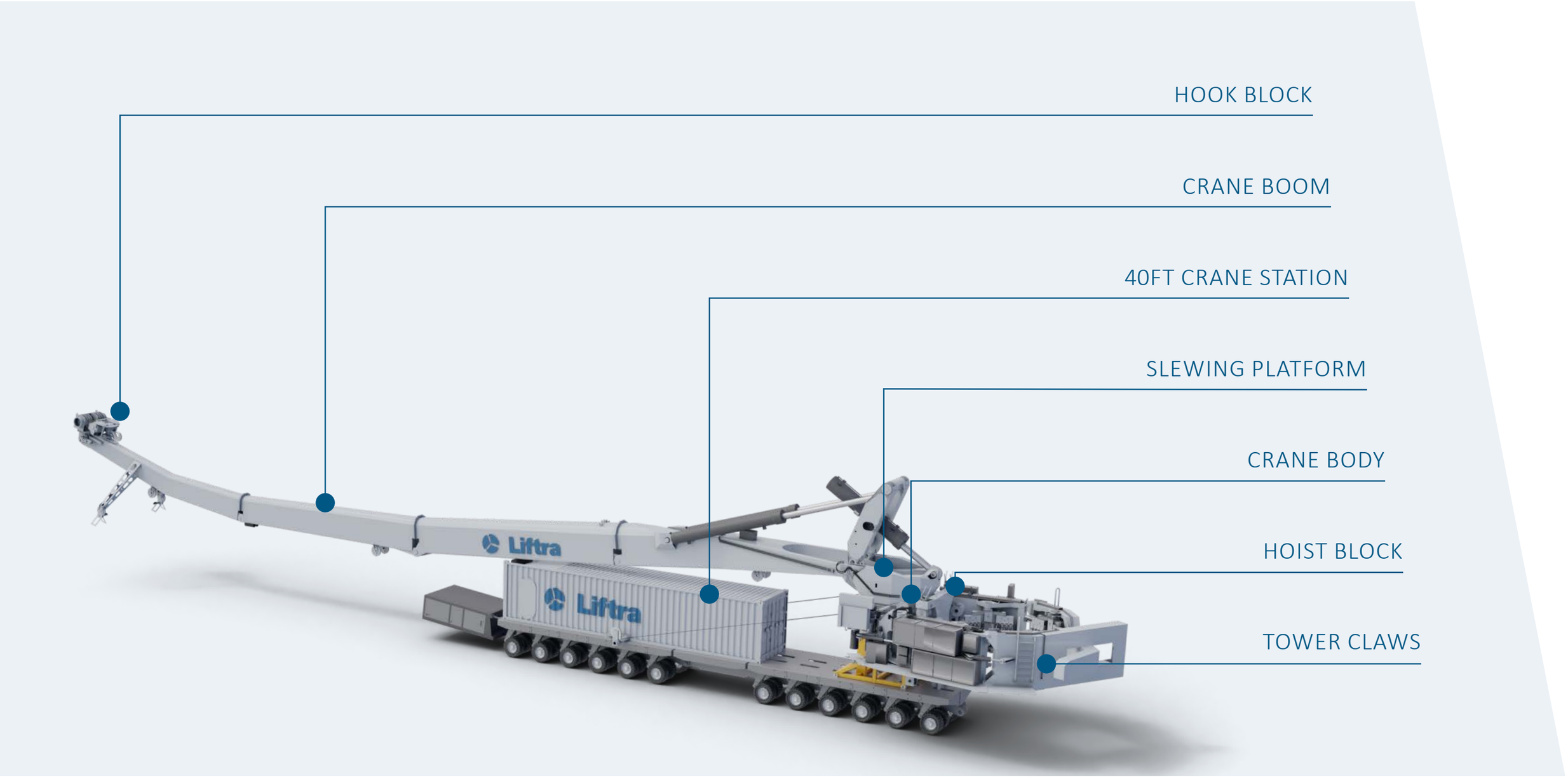
THE LT1500 HAS OFFICIALLY ENTERED PRODUCTION!

The project has received support from EUDP – The Energy Technology Development and Demonstration Program.

SYSTEM OVERVIEW

The complete crane system is assembled on a Self Propelled Mobile Transporter (SPMT). It can be divided into the Crane Station, which stays on the SPMT during installation, and the Crane itself which goes up tower. The Crane can be divided into main parts as shown below.

The crane arrives to site on 8 containers or trailers. Once on-site it can be transported fully assembled on the SPMT as shown below.



BUILDS ON THE LIFTRA SELF-HOISTING TECHNOLOGY

The LT1500 concept expands on key technology principles of the Self-Hoisting Crane, building on the proven self-hoisting method, and utilizing a 40ft container as the crane launch station.


LT1200


LT1500

LT1500 TECHNICAL SPECIFICATION

WEIGHT

120 / 30

CRANE 120 TON,
CRANE STATION 30 TON

LIFTING CAPACITY

120

WLL - 120 TON

MAX TOWER HEIGHT

250

250M

MAX WIND

BLADES 14 M/S
OTHER 18 M/S
OUT OF SERVICE 40 M/S

MOBILIZATION

8

8 TRAILER LOADS
CAN ALSO BE 40FT FLAT
RACK CONTAINERS

RELOCATION ON SITE

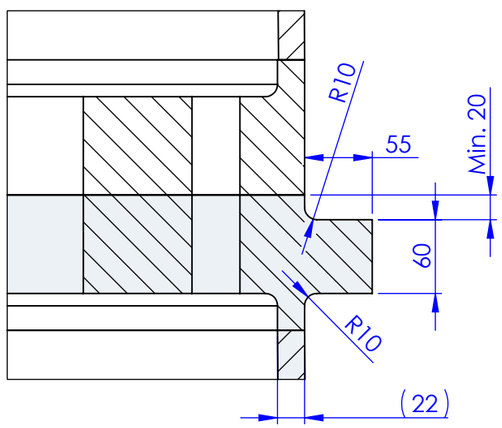
CAN BE DONE FULLY
ASSEMBLED ON 1 SPMT
(SELF PROPELLED MOBILE TRAILER)

TURBINE REQUIREMENTS

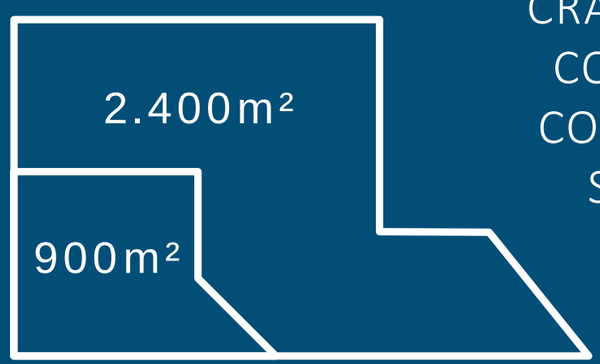
The LT1500 Installation Crane can connect to all tower sections with an outer diameter between 3.5m and 6.5m.

The only requirement is that the tower sections are equipped with an outside flange.

The dimensions of these flanges do not exceed a height of 60mm and a width of 55mm.



EXAMPLE OF TOWER SECTION WITH ADDED OUTER FLANGE



UP TO 63% SMALLER CRANE PAD AREA COMPARED TO CONVENTIONAL SOLUTIONS

CRANE OPERATOR DEMANDS/ EDUCATION

The crane operator must have a mobile crane certificate and be certified for use of the LT1500 Installation Crane by liftra.

SITE REQUIREMENTS

LT1500 Installation Crane needs less than half the crane pad area compared to conventional cranes.

- No area for boom or crane assembly needed
- No area for Superlift needed
- No minimum lifting radius
- No area for crane components needed

MOBILIZATION

No special road infrastructure is required:

- Only 8 trailer loads
- Can be transported on 40 ft flat rack containers
- Limited oversized loads
- No heavy load trailers needed

INSTALLATION

Pre-installation is done up front. Pre-installed towers can be from 20m up to 150m high and constructed of either steel, concrete wood, or other solutions. The only requirement is a flange on the top of the pre-installed tower.

The LT1500 Installation Crane can install tower sections with a length of up to 36m and a weight of 120 ton.
Towers are installed by using a tailing crane to upend the sections.

CHECK OUT THE LATEST MATERIAL:

REPOSITIONING ON THE TOWER

After the installation of each tower section, the crane can reposition itself to the next flange at the top of the installed tower section. This will take approx. 2 hours.

On the top tower section, the flange will be positioned a few meters below the top to avoid conflicts with the nacelle.

Nacelle, drive-train, hub, and blades are installed from the same position on the top tower section.

When the entire turbine has been installed, the LT1500 Installation Crane can be lowered directly from the top flange to the SPMT on the crane pad.

RELOCATION

For relocation in-between turbines, the LT1500 can be transported fully assembled on the SPMT.

This configuration allows for fast re-location, bringing the transportation, from one turbine to the next, down to approx. 10 hours.

OFFSHORE APPLICATION

Concept studies have shown that there is a lot of future potential for the LT1500 technology as a solution for offshore turbines.

For deployment offshore the Installation Crane would be scaled with increased lifting capacity to lift the next generation wind turbines.

Through strategic collaborations, we introduce two innovative offshore solutions with the Turbine Installation Crane:

LIFTRA AND DEME COLLABORATION

The Turbine Installation Crane (TIC) is a joint development with DEME – an innovative solution offering the possibility of erecting higher and heavier turbines using existing vessels at a lower cost, while at the same time reducing the environmental footprint on the seabed and is suitable for both bottom-fixed and floating turbines.

- A methodology for the next generation offshore turbines
- No limitation to water depth or lifting height
- Controlled relative motions at height
- In-situ O&M-MCE solution for floating wind

ATOMS BY SOLVE WIND

The ATOMS, developed by SOLVE WIND—a joint venture between Liftra and Esteyco—is a semi-submersible barge platform designed for major component installation and exchange on fixed-bottom and potentially floating offshore wind turbines, utilizing Liftra's LT1500 technology for maintenance.

- Cost effective
- Minimal environmental impact
- Manufacturing with local content possible
- Flexible solution

DOWNLOAD
SALES MATERIAL

Liftra

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