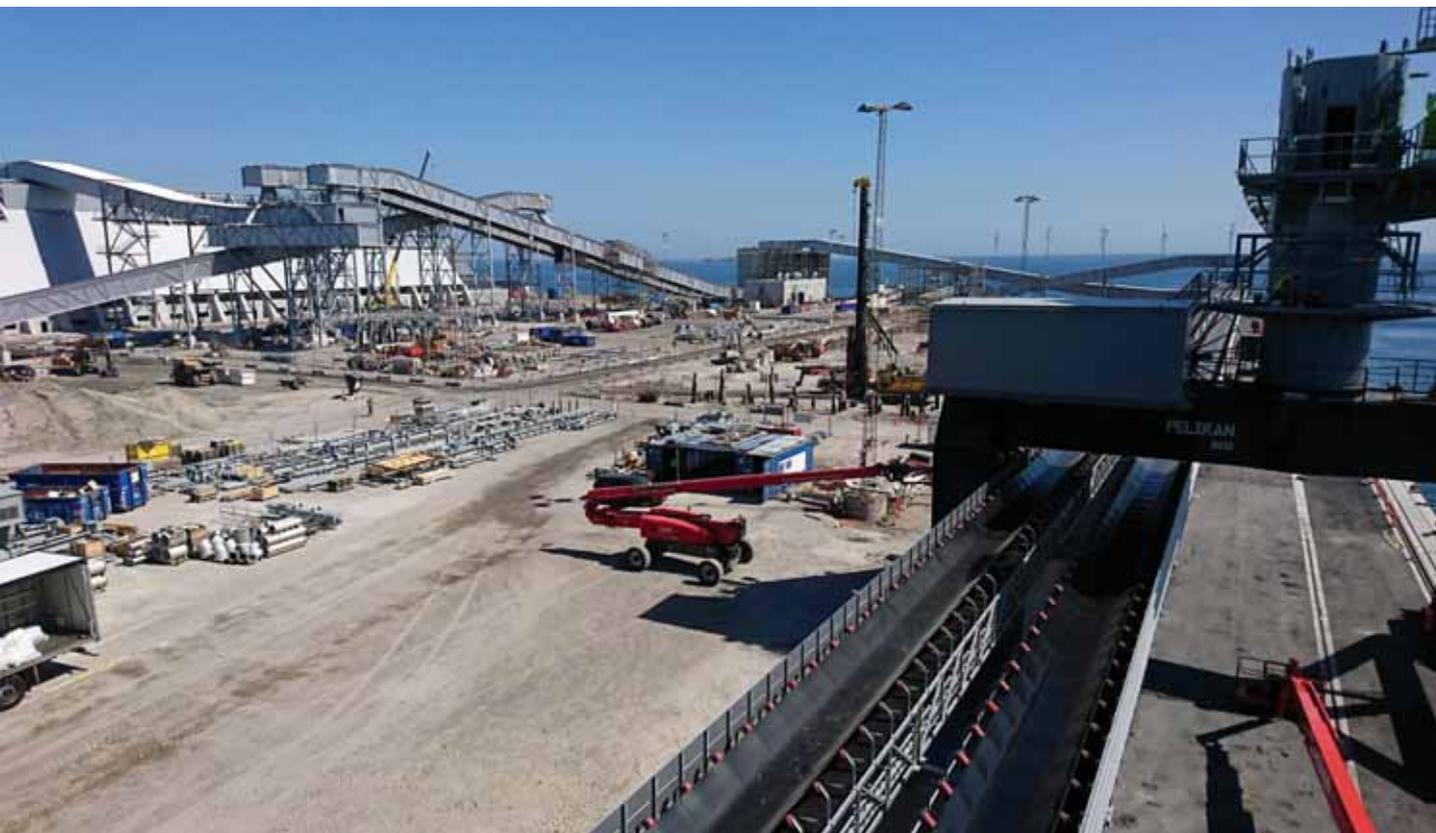


Port handling

with explosion protection from Loibl



As an internationally recognized partner, Loibl has been setting high standards for sophisticated process engineering in bulk material handling for 60 years. The company offers innovative transport solutions, and has extensive know-how about the promotion of renewable raw materials.

CHP — COMBINED HEAT AND POWER PLANTS

Combined heating and power plants are gaining in importance in connection with the work towards a fossil-fuel phase-out. Many power plant operators are already reacting to the ambitious politics-driven , of politics and are gradually converting their systems to renewable energies. The transition process works with combined firing from fossil fuels and renewable raw materials, mainly wood. In the long term, there should be a permanent switch to the combustion of renewable energies. In this phase, there is a need for an experienced

partner who reliably supports energy producers and industrial users during the changeover.

Loibl delivers to Denmark. For HOFOR, the largest utility company in Denmark, Loibl designed an economically efficient, individual solution for the transport of biomass (wood chips) from

the port to the incineration plant at the end of 2019. HOFOR supplies around 20% of the entire Danish population with water, heat, electricity and gas.

“Our individual ship-unloading conveyor technology meets all the requirements for industrial biomass handling. These sophisticated systems support our



customers in switching to renewable resources,” says Jules Fricke, Managing Director of Loibl Förderanlagen GmbH

PROCESS ENGINEERING FOR A CLEANER ENVIRONMENT

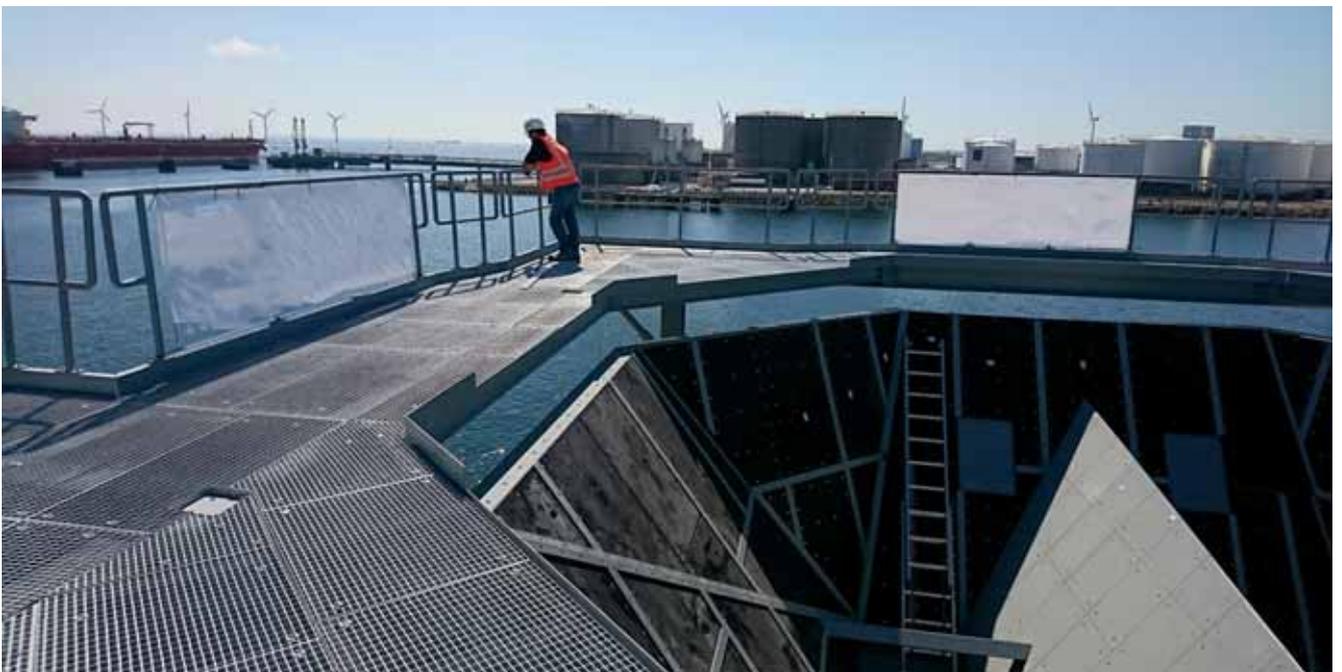
In the Port of Copenhagen, 3,200m³/h of biomass are handled daily at the Amagerværket power plant. The amount of dust that arises during loading increases the risk of ignition. With more than 60 years of experience in individually conceptualized bulk materials transport and as a competent partner in the field of fire-endangered and explosive bulk goods, Loibl developed an innovative, ATEX-compliant conveying concept that has exceeded the expectations of the largest Danish energy supplier.

Loibl supplied a facility with a total



weight of around 390 tonnes of technical equipment. This equipment forms the interface between ship and stationary conveyor technology. Included are two massive hoppers with an octagonal opening and a dust return wall attached. This special shape already reduces the amount of dust during wood chip loading operations. Under the hoppers there are trough chain conveyors (**LASHCHAINCON**[®]) in a particularly heavy-duty design and with a clear width of 2,000mm. These **LASHCHAINCON**[®] conveyors offer a total conveying capacity of 800m³/h.

The feed hoppers are open at the top; this reduces the formation of an explosive atmosphere and ensures pressure relief in the event of an explosion. The material is withdrawn from the hoppers in the upper run of the trough chain conveyor below. A dedusting system automatically sucks up





the dust generated during transshipment in the feed hopper and at the subsequent transfer points. Heavier dust particles are reliably transported away with the conveying flow.

Each of the so-called hopper cars removes a total of 1,600m³/h of material. In addition to the dust return, the hopper cars are equipped with dry extinguishing lines including spraying in the feed bunker and filters. In the event of a fire, water is fed in by the local fire brigade with the dry fire line on the hopper car. In addition, a fire hose can be connected to a separate riser if necessary to extinguish fires on the hopper car. For cleaning, there are suction and wet cleaning lines on the hopper car, to which the operator can connect the corresponding equipment.

The hopper cars are coupled with the harbour cranes. This means that they can be moved individually and to any ship unloading position on the pier. During the unloading pauses, the clamshell bucket and multi-section grab can be safely placed on the hopper car.

LOIBL'S SCOPE OF SUPPLY AND SERVICES:

- ❖ extensive engineering;
- ❖ production in Straubing, Bavaria;
- ❖ delivery of selected components;

- ❖ installation and commissioning on site;
- ❖ conveyor technology for biomass transport:
 - ❑ feed hoppers;
 - ❑ movable steel construction
 - ❑ **LASHCHAINCON®**: discharge trough chain conveyor;
 - ❑ control cabinet including cabling;
 - ❑ dry fire line;
 - ❑ suction and wet cleaning line; and
 - ❑ filter system (dedusting) including pressure relief device.

LOIBL FÖRDERANLAGEN GMBH

Loibl is a major global supplier and manufacturer of customer-specific transport solutions for bulk materials, from

individual components to complex systems. Its decades of experience and its extensive knowledge of the physical requirements of bulk materials of all kinds make Loibl an indispensable partner in the development of individual solutions for a wide variety of industries and applications.

Since 1960, Loibl has been creating conveyor concepts and systems that individually meet the diverse and specific requirements of customers. Its solutions range from individual and standard conveyors through innovative and complex technology to special solutions and key components. Its products offer various industries a wide range of options for optimizing and increasing the process efficiency of systems.

