

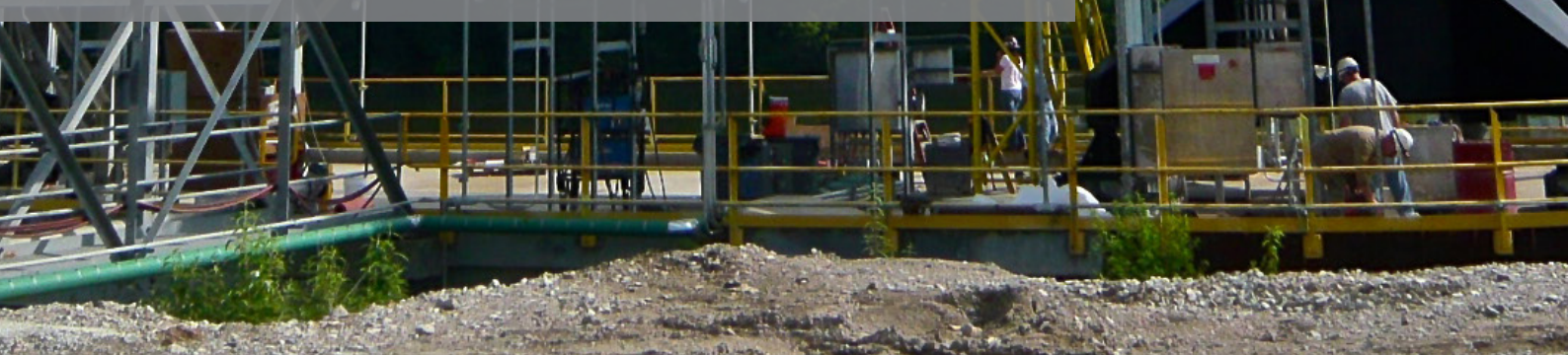
Company Profile

MEMBER OF  
**ISRI**

Bureau of  
International  
Recycling



**E-CRANE**<sup>®</sup>  
**QUILIBRIUM**



## Introduction:

E-Crane® Worldwide provides turnkey terminal solutions incorporating our core product the **EQUILIBRIUM CRANE** also known as the E-Crane. With 20 year experience developing tailor-made solutions for the bulk material handling, metal recycling and dredging industries there is no task we can not handle.

E-Crane® Worldwide is based in Belgium and has subsidiary companies in The Netherlands, the USA and Poland. With a global network of agents, local support from certified E-Crane service engineers is offered

In order to increase demand worldwide E-Crane is constantly looking for new opportunities and local agents. In order to find a good fit between us and potential agents, this profile will describe our company and product range and what we are looking for in an agent.



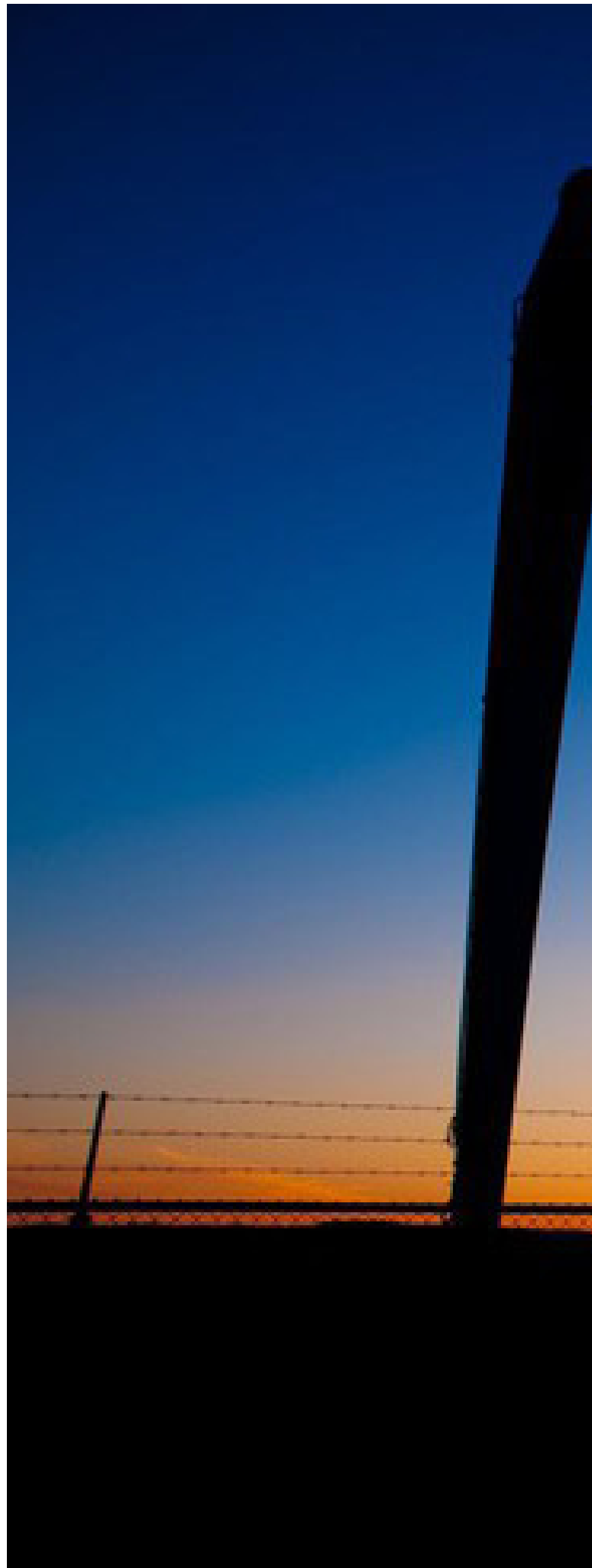


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**E**-Crane Worldwide was founded in 1990 with a small staff of experienced heavy equipment engineers. Today, E-Crane Worldwide is a leader in heavy equipment design and manufacturing. The 'Equilibrium Crane' more easily referred to as E-Crane has been our focus and is now recognized as the most advanced and efficient grab type crane for bulk material & scrap handling in the world. We are also very proud that we can offer full service to our customers including: all engineering activities, manufacturing, assembly, testing, technical documentation and all related activities. As the inventor of E-Crane technology, E-Crane has its own a manufacturing facility in Poland (Famaba) and owns 2000 m<sup>2</sup> of assembly floor space dedicated to manufacturing and testing the E-Crane. Also, E-Crane is staffed for equipment repair, spare parts, training programs, and preventive maintenance. Our steady & continuous growth and the increasing number of new and repeat customers is evidence that our business plan is sound.

E-Crane has made significant investments to provide world-class engineering, technical support, service, and spare parts availability. These investments support both the existing equilibrium cranes as well as the latest generation E-Crane products. Our European and American dealer network has been strongly expanded, providing immediate availability of spare parts in more than 95% of the time. The expansion of our service department assures rapid response to questions and quick troubleshooting by our technicians. We also offer free technical support by phone to help optimize our client's productivity and machine availability. E-Crane provides this with one thing in mind customer satisfaction.

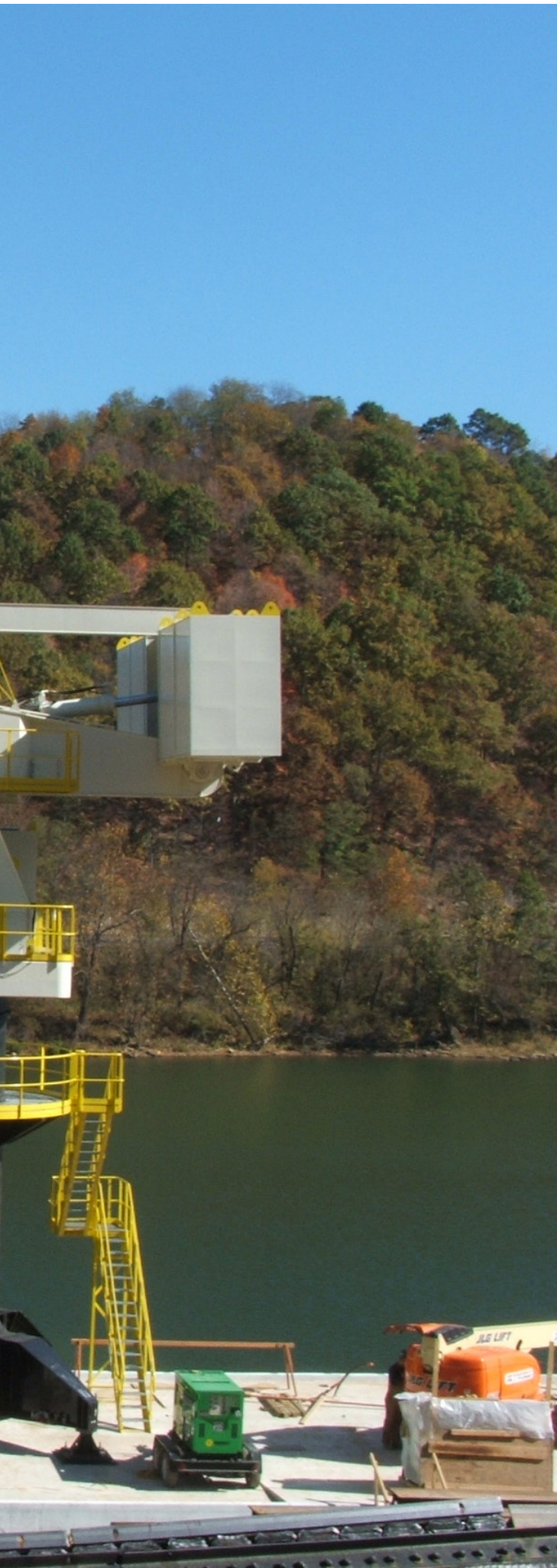




**Unloading bulk material at the  
lowest cost per ton!**



In terminals worldwide E-Crane® is proving that its unique parallelogram design outperforms conventional cranes and material handlers in scrap and bulk material operations.



## Why Balanced Design is Better for Your Business

Balance is one of the key factors for any crane in the industry. Without the right balance, a crane will lose its stability. To avoid this, all cranes know the principle of the 'counterweight'. In most cases this counterweight is at a fixed point on the crane, but on an E-Crane, the counterweight is linked to the stick, so it can automatically compensate for the lifted load.

## Only E-Crane Finds True Balance

The balance crane provides a fail-safe system which guarantees that the crane will always be in balance. The link between the stick and counterweight creates a 4-bar mechanism, which ensures that the counterweight continuously balances the total weight of the steel structure along with half of the operational load. As the lifting radius is varied, the change in the load moment is automatically equalized by the moving counterweight.

## Energy Savings Thanks to Balanced Design

Lower energy consumption means lower costs! With traditional hoisting machinery, the payload, working tool, and steel construction have to be raised, but the E-Crane's balance compensates for all but the payload. It goes without saying that this results in important energy savings.

E-Crane's hydraulically pivoting, mechanically linked boom design keeps the machine in near perfect balance throughout its full working range. Having gravity work for you instead of against you reduces horsepower requirements and power consumption up to 50%.

## The Equilibrium Advantages

- **Less maintenance and longer component life due to lower stress on the support structure**
- **Lower operating power required resulting in lower cost per offloaded ton**
- **Rigid connection between the grab and the crane structure, even at the maximum operating radius**
- **Continuous operating load over the total working area**
- **Smoother, quieter operation of the whole machine**

# Product Range

## Uppers

E-Crane's modular design concept allows our engineers to tailor a custom solution for the customer's needs, based on our proven core components. We offer five different series of machines based on capacity requirements: 700, 1000, 1500, 2000 and 3000. Within each series you find models with different boom and stick configurations to suit your outreach requirements. In the table below the five different series are summarized for more detailed information consult the comprehensive table on the next page.

## Lowers

Every E-Crane is custom designed to meet specific needs. E-Crane engineers will work with the end-user to provide a solution that optimizes operations. E-Crane fixed pedestal lowers take up the smallest footprint, and the freestanding pedestal options minimize civil construction. Traveling options include electrically driven rail undercarriages as well as diesel crawlers with electric plug in. The balanced design makes the E-Crane perfectly suitable for floating installations e.g. barge and ship.

## Grabs

We provide our customers with turnkey solutions and therefore include custom engineered attachments and grabs, which can all be used in combination with the E-Crane rotator & quick change mechanical coupler. Our entire range of products is compatible with attachments from any grab manufacturer and existing grabs can easily be modified to fit the quick-change twist-lock pattern.

E-Cranes come with a quick-change mechanical coupler. The quick-change mechanical coupler allows for a safe and efficient switch between attachments. E-Crane offers a wide variety of attachments: clamshell grabs, orange peel grabs, hooks, (semi-automatic) spreaders, magnets, grab rotators, etc.



# Product Range

700 Series	Model	Maximum Outreach		Capacity Duty Cycle		Capacity Lift Mode	
	4248	24,8 m	81.5 ft	5,5 Mton	6.0 USt	6,5 Mton	7.0 USt
	4264	26,4 m	86.5 ft	5,5 Mton	6.0 USt	6,5 Mton	7.0 USt
	6317	31,7 m	104.0 ft	7,5 Mton	8.3 USt	9,0 Mton	9.9 USt

1000 Series	Model	Maximum Outreach		Capacity Duty Cycle		Capacity Lift Mode	
	7248	24,8 m	81.5 ft	9,1 Mton	10.0 USt	12,0 Mton	13.2 USt
	7264	26,4 m	86.5 ft	9,1 Mton	10.0 USt	12,0 Mton	13.2 USt
	7290	29,0 m	95.0 ft	10,0 Mton	11.0 USt	13,6 Mton	15.0 USt
	7317	31,7 m	104.0 ft	10,0 Mton	11.0 USt	13,6 Mton	15.0 USt
	7359	35,9 m	117.5 ft	10,0 Mton	11.0 USt	13,0 Mton	14.3 USt
	7382	38,2 m	125.5 ft	10,0 Mton	11.0 USt	13,6 Mton	15.0 USt
	7421	42,1 m	138.0 ft	10,0 Mton	11.0 USt	11,0 Mton	12.1 USt
7450	45,0 m	147.6 ft	10,0 Mton	11.0 USt	11,0 Mton	12.1 USt	

1500 Series	Model	Maximum Outreach		Capacity Duty Cycle		Capacity Lift Mode	
	11248	24,8 m	81.5 ft	17,0 Mton	18.7 USt	19,0 Mton	20.9 USt
	11264	26,4 m	86.5 ft	16,5 Mton	18.2 USt	19,0 Mton	20.9 USt
	10290	29,0 m	95.0 ft	14,0 Mton	15.4 USt	15,5 Mton	17.1 USt
	9317	31,7 m	104.0 ft	14,0 Mton	15.4 USt	15,5 Mton	17.1 USt
	9359	35,9 m	117.5 ft	12,5 Mton	13.8 USt	13,5 Mton	14.9 USt
9382	38,2 m	125.5 ft	12,0 Mton	13.2 USt	13,9 Mton	14.9 USt	

2000 Series	Model	Maximum Outreach		Capacity Duty Cycle		Capacity Lift Mode	
	18264	26,4 m	86.5 ft	24,0 Mton	26.5 USt	27,0 Mton	30.0 USt
	16290	29,0 m	95.0 ft	20,0 Mton	22.0 USt	25,0 Mton	27.5 USt
	15317	31,7 m	104.0 ft	20,0 Mton	22.0 USt	25,0 Mton	27.5 USt
	14359	35,9 m	117.5 ft	17,0 Mton	18.7 USt	21,0 Mton	23.1 USt
	17359	35,9 m	117.5 ft	21,0 Mton	23.1 USt	28,0 Mton	30.8 USt
	13382	38,2 m	125.5 ft	16,0 Mton	17.6 USt	20,0 Mton	22.0 USt
	16382	38,2 m	125.5 ft	20,0 Mton	22.0 USt	24,0 Mton	26.4 USt
	21382	38,2 m	125.5 ft	30,0 Mton	33.0 USt	40,0 Mton	44.0 USt
	19421	42,1 m	138.0 ft	25,0 Mton	27.5 USt	33,0 Mton	36.3 USt
18450	45,0 m	147.6 ft	24,5 Mton	27.0 USt	29,0 Mton	32.0 USt	

3000 Series	Model	Maximum Outreach		Capacity Duty Cycle		Capacity Lift Mode	
	26317	31,7 m	104.0 ft	34,0 Mton	37.4 USt	40,0 Mton	44.0 USt
	23359	35,9 m	117.5 ft	30,0 Mton	33.0 USt	40,0 Mton	44.0 USt
	30382	38,2 m	125.5 ft	39,0 Mton	42.9 USt	45,0 Mton	49.5 USt
	27450	45,0 m	147.6 ft	36,0 Mton	39.6 USt	43,0 Mton	47.3 USt
26478	47,8 m	156.8 ft	33,0 Mton	36.3 USt	40,0 Mton	44.0 USt	

# Industries

In this section three main industries in which the E-Cranes are used will be described. The E-Crane advantages over conventional cranes and material handlers will be explained.

## Bulk Material Handling

### Industry description

When it comes to the bulk material handling industry, E-Crane has focused on dry bulk material. E-Cranes are found everywhere along the supply chain for bulk materials, from mining to shipping all the way to processing. Materials that can be assigned to dry bulk are for instance: bauxite, bulk minerals (sand, gravel, copper, limestone, salt), cement, chemicals (fertilizer, plastic granules, synthetic fiber), coal, dry edibles (flour, peanuts, raw/refined sugar, seeds), grain (wheat, maize, rice, barley, oats, rye, soybeans), iron (ferrous & non-ferrous ores, ferroalloys, pig iron, scrap metal) and wood chips. The equipment designed for this industry is typically composed of stationary machinery. Advanced bulk material handling systems feature integrated bulk storage, conveying, and discharge.

### E-crane advantages

The E-crane product line offers exceptional all round flexibility and versatility. Lowers are available in fixed or freestanding pedestals, rail and crawler models with high or low portal carriers. The upper is built around a wide range of boom and stick combinations, allowing for a tailor made “custom” material handling solutions at off-the-shelf-prices. E-cranes are built for duty cycle operation, have excellent grab filling factor, also when handling difficult materials due to the push down force. The grabs have a fast opening and closing time and the cranes allow for improved access to the underneath hatch coaming.

## Metal Scrap Handling

### Industry description

The industry of metal scrap handling covers a wide range of metals. More frequently recycled metals are scrap steel, iron, lead, aluminium, copper, stainless steel and zinc. There are two main categories of metals: ferrous and non-ferrous. Metals which contain iron in them are known as Ferrous where metals without iron are non-ferrous.



E-Crane creates next generation scrap handling solutions designed for both steel mills and recycling centres featuring the core product the E-Crane. The E-Crane is a multifunctional crane, which makes it perfect for heavy-duty scrap and material handling applications.

### **E-crane advantages**

The versatile E-Crane tackles any scrap handling job you put under its boom: From ships and barges to trains and trucks, all are unloaded with ease. The E-Crane shines on dedicated tasks like: feeding shredders, filling shears or loading charge baskets

E-Crane engineers have worked with hundreds of mills, terminals, and scrap processing facilities worldwide, and have decades of experience within the industry. With our vast experience and knowledge, there are no lifting, climatic, or logistics challenges that we have not met. E-Crane can design, engineer, and construct the optimum scrap handling solution.

## **Dredging**

### **Industry description**

Dredging is a term used to describe underwater excavation. A dredge is a machine that scoops (or suction) sediment from the bottom of waterways or is used to mine materials underwater.

The E-Dredger features the E-Crane super-balanced equilibrium principle for smooth, efficient, energy saving operation in dredging and related applications. These includes operations such as piling, ship salvaging, heavy construction with dynamiting, classic dike works, construction of breakwaters, land reclamation, and beach and embankment preservations.

### **E-crane advantages**

The balanced design of the E-Dredger minimizes tipping, even when fully loaded. This superior balance allows the E-Dredger to be mounted on virtually any type of barge, with or without spud poles. The E-Dredger requires very low power consumption, which leads to significant fuel savings. Along with the advantages of its unique balanced design, the E-dredger also has a superlift mode, which reduces the need to discharge material from an overloaded grab and therefor eliminating spillage of potentially contaminated silt. Its compact design and self-propelled nature allows for travel all over the world under its own steam, and the specialized hydraulic grab with greater closing force leads to superior digging performance. The fixed connection with the grab makes the E-Crane perfectly suitable for working under water with pinpoint precision.





# Agents

## Strategy

E-crane operates with a worldwide network of agents. This agent shall not be employed by E-crane, but will work on a commission basis. His job is to identify possible sales opportunities and to actively engage in the process of promoting E-cranes' product line. The agent will develop projects in close cooperation with E-Crane. If a project results in an order the agent will be entitled to a finders fee. However, if the agent takes up a more active role he will be rewarded accordingly. The agent can either be a person or a company.

## Characteristics of an agent

A local agent possesses several important characteristics.

- Thorough knowledge of the market for cranes
- Has an affection for heavy equipment
- Well connected
- Speaks both the native language and English
- Has good communication skills
- Is actively searching for opportunities
- Is trustworthy

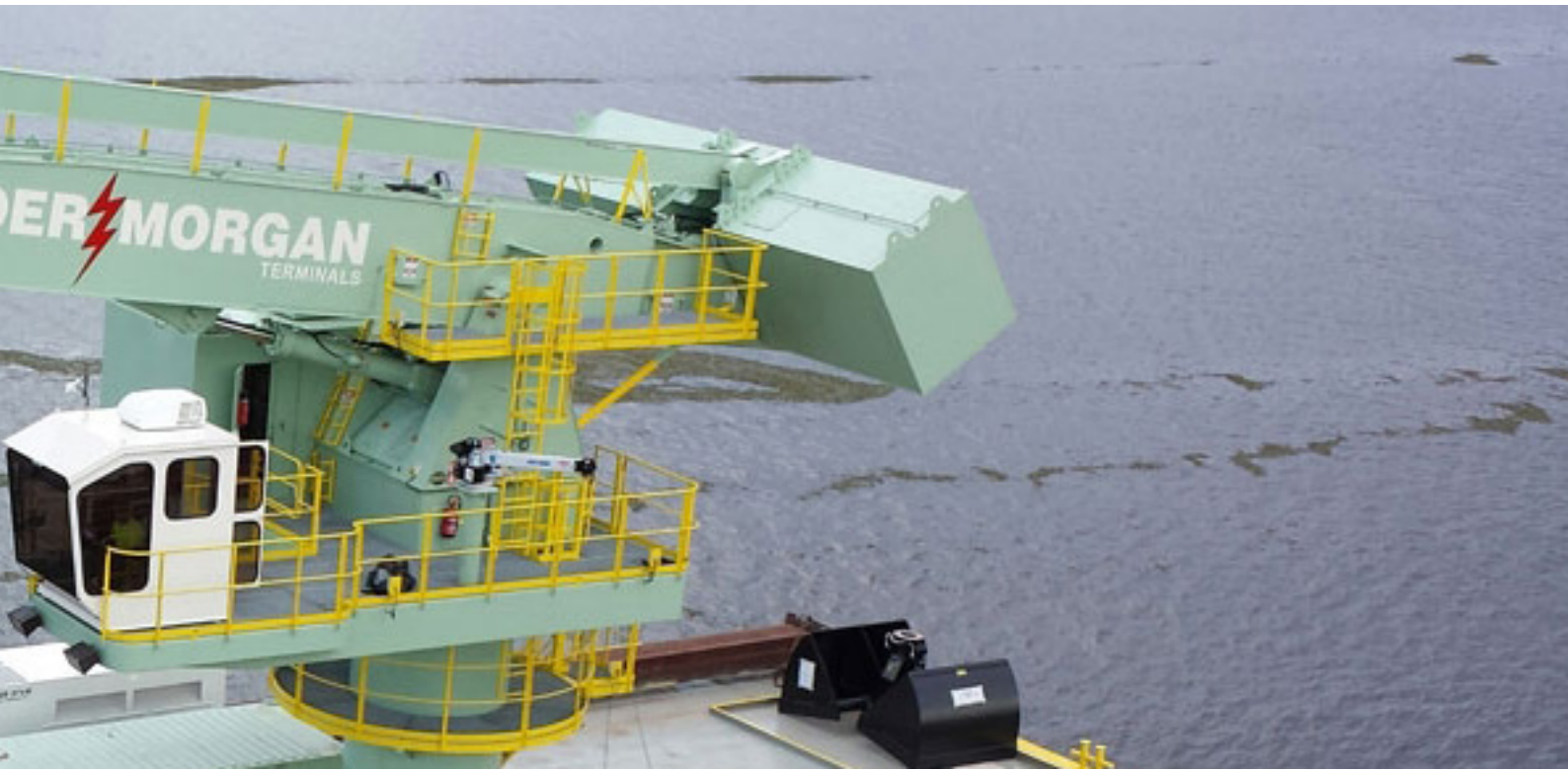
## Reporting:

The agent reports directly to the Sales Manager E-Crane.

## Potential representatives

From past experience, potential agents belong to one of the following two categories:

1. Independent dealers
  - These are companies that are already representing several other international companies within the same geographical area and affiliated industries.
2. Companies manufacturing & supplying affiliated products
  - These are manufacturing companies of complementary equipment to the E-Crane product line. .



### Affiliated products

When looking for companies that are supplying affiliated products one can think of companies producing and/or selling one or more of the following products.

- Grabs & attachments
- Smaller loading and unloading equipment
- Shears and shredders
- Buyers & Sellers of Heavy Metal Steel/Scrap (HMS)
- Steel mills and steel recycling centres
- Reclaimers and Stackers
- Conveyors
- Barges
- Hoppers

700 Series	1000 Series	1500 Series	2000 Series	3000 Series
31.7 m 104 ft	45.0 m 147.6 ft	38.2 m 125.5 ft	45.0 m 104 ft	47.8 m 156.8 ft
7.5 Mton 8.3 USton	10.0 Mton 11.0 USton	17.0 Mton 18.7 USton	30.0 Mton 33.0 USton	39.0 Mton 42.9 USton
9 Mton 9.9 USton	11.0 Mton 12.1 USton	19.0 Mton 20.9 USton	40.0 Mton 44.0 USton	45.0 Mton 49.5 USton
110 kW 150 hp	160 kW 200 hp	200 kW 200 hp	450 kW 650 hp	600 kW 800 hp
<a href="#">View series</a>	<a href="#">View series</a>	<a href="#">View series</a>	<a href="#">View series</a>	<a href="#">View series</a>

# Case study



Type	11264B PD-E
Location	Evansville, Indiana, USA
Application	Aggregate, stone
Mount	Barge
Lift Capacity	18.2 Ustons / 16,5 Mtons
Reach	86.5 ft / 26,4 m
Attachment	Young Hydraulic Clamshell 5.5 yd <sup>3</sup>
Power Source	300-hp / 225 kW Electric Motor

## Description of the E-Crane

Mulzer Crushed Stone installed a 1500B Series E-Crane® for handling aggregate and stone at their facility in Evansville, Indiana. Previously, Mulzer had been using a barge mounted material handler for this application. They were ready to move on to a new solution in order to improve operation. E-Crane® had better parts availability and good service - something they were looking for in a new solution.

E-Crane® engineers worked with Mulzer to come up with an ideal solution. Mulzer believed in the concept of having a long outreach floating crane and saw that a genuine E-Crane® was perfect for their operation. E-Crane's innate balanced design minimizes tipping, making it ideal for mounting on any type of barge.

E-Crane® service technicians went to Mulzer to install and commission the barge-mounted E-Crane®. Mulzer is very happy with E-Crane's performance.

I work with a LOT of contractors that talk a good talk but cannot perform in the field. Don and I have been very impressed with Steve Suter and his guys. They are very organized, communicate well, have a sense of urgency and know their job. It's nice to work with a company whose service has been excellent from beginning to end.



**Kevin Fulkerson**, Equipment Superintendent, **Mulzer Crushed Stone**

## Description of the E-Crane

The Port of Kokkola's favourable location in mid/west Finland makes it a very well-known harbour with good connections to other parts of Finland, both by road and rail. After extending the 'Deep Port' quay, it was decided to purchase a new E-Crane Model 17359 GA-E to increase the Port's loading and unloading capacity.

The main reason for choosing this type of crane is the fact that this hydraulic balanced crane can operate with utmost precision plus the high transloading capacity. Capacities of 700-1000 tons per hour can be reached. Furthermore the low energy consumption of this machine played a big part in making this choice.



Type	4264 PD-E
Location	Flowood, Mississippi, USA
Application	Feeding shredder
Mount	Pedestal
Lift Capacity	7.2 UStons/ 6.5 Mtons
Reach	86.5 ft / 26,4 m
Attachment	Young 3x2 Bypass Grapple
Power Source	150-hp/110 kW electric motor

### Description of the E-Crane

Nucor General Recycling installed a 700 Series E-Crane® for feeding auto bodies into a shredder at their Flowood, Mississippi facility near Jackson. The shredder was previously fed by older material handler which was replaced with the new E-Crane®.

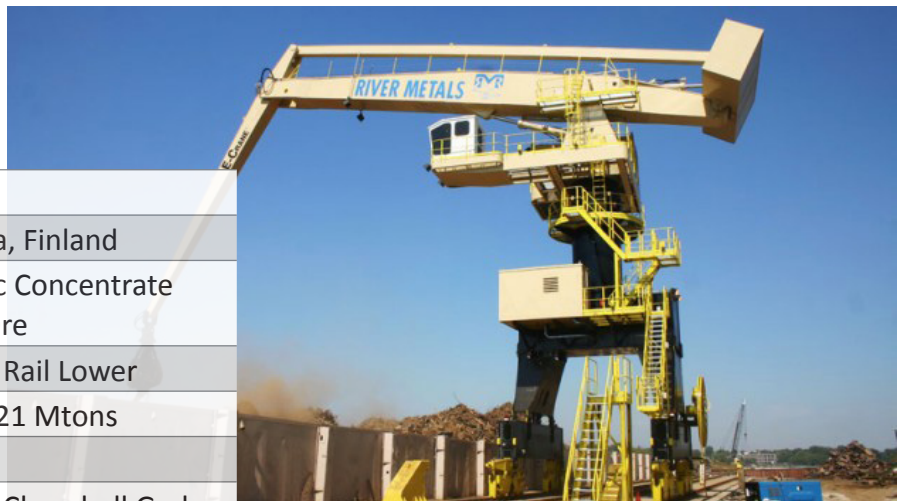
E-Crane® engineers worked with Nucor to develop a turn-key solution for removing the old crane and erecting the E-Crane® in its place. The E-Crane® is mounted on a 4-legged pedestal, with custom stairways to accommodate the infrastructure that had previously been surrounding the old crane. Complete assembly and installation, including the tear-down of the original crane, took only two weeks. The E-Crane® became operational shortly after installation and is capable of feeding 2 to 3 auto bodies into the shredder per cycle.

Nucor is well satisfied with the successful installation and their newly updated operation.

Our maintenance and operational teams are pleased with the performance and reliability of the E-Crane®. Buying the E-Crane® was the right decision.



**Don Le Mar, Manager, General Recycling, USA**

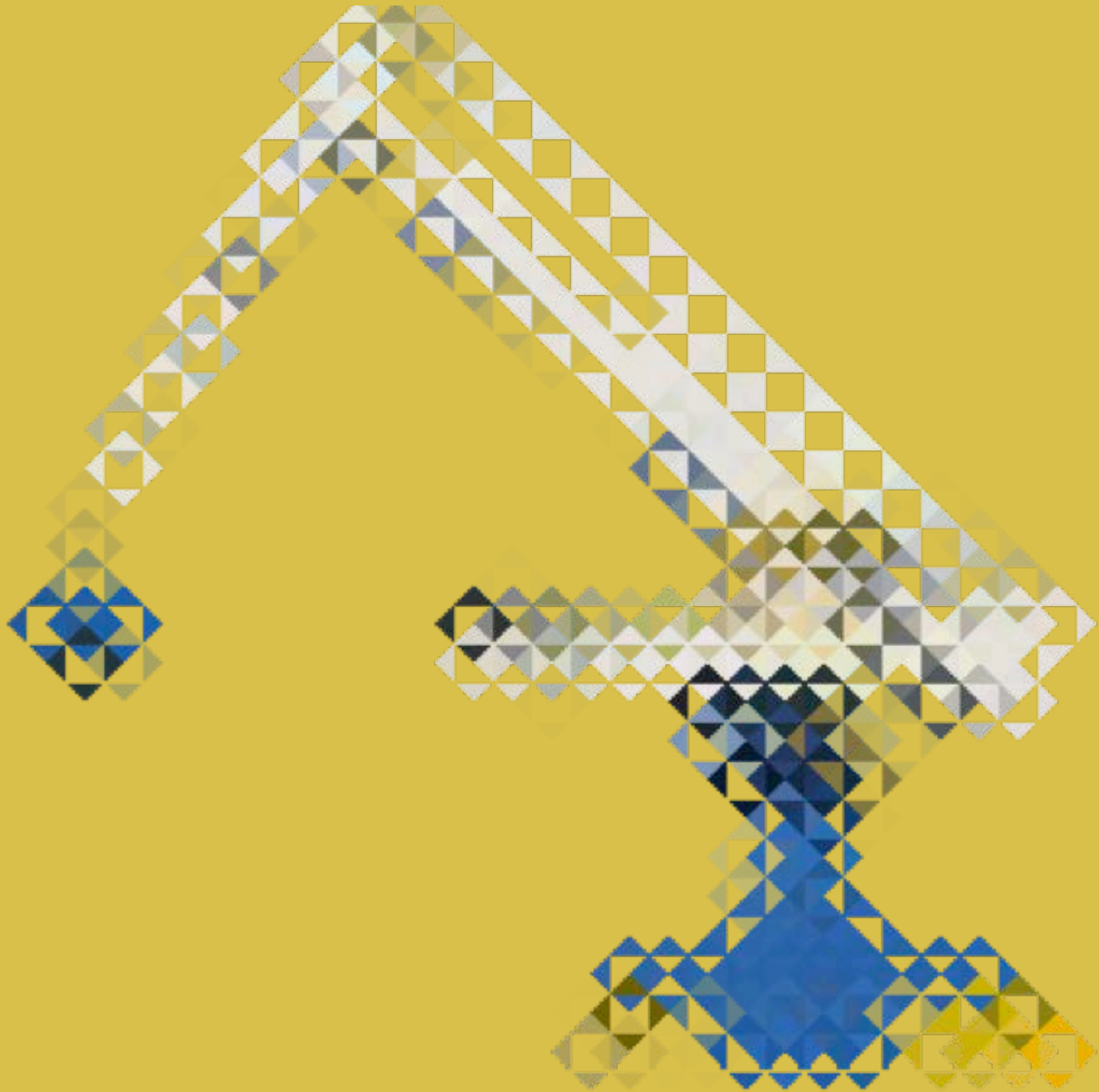


Type	17359 B GA-E
Location	Port of Kokkola, Finland
Application	Offloading Zinc Concentrate Loading Iron Ore
Mount	High Portal on Rail Lower
Lift Capacity	23,1 UStons / 21 Mtons
Reach	130 ft/ 39,5 m
Attachment	17 yd³ / 13 m³ Clamshell Grab
Power Source	600-hp/ 450 kW Electric Motor

This project was the 'easiest' one in all my time at Port of Kokkola: E-Crane fully understood our wishes, and we were extremely pleased with how the negotiations, technical meetings and training sessions went.



**Torbjörn Witting, Port Director, Port of Kokkola**



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