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Equipment and Systems!



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华创重工工业（大连）有限公司
HUACHUANG HEAVY INDUSTRY (DALIAN) CO., LTD.

Company Overview

公司介绍

华创重工工业（大连）有限公司（华创重工TRSM）成立于2012年，坐落于中国美丽的海滨城市大连。公司主要从事物料破碎、输送及搬运设备及系统的设计、制造、安装及服务。华创重工秉持“技术质量、服务双一流”理念，以市场客户需求为导向，在矿山机械制造细分应用领域，在与业内国际领先跨国企业长期深度合作高起点基础上结合产学研机制，坚持不懈进行自主研发和技术创新，研发产业前沿技术及产品，实现迈入高质量科技型发展新征程。

华创重工拥有产品生产和机电安装资质、欧洲标准认证体系（EN1090、ISO3834）、ISO管理三体系，设有生产基地，年产能达2.5万吨。华创重工的质量和技术能力获得国内外用户的广泛认可，在恶劣极寒地区拥有众多成功项目业绩，市场知名度更高。华创重工的部分产品和技术属于国内物料破碎及输送设备系统的关键领域补短板，填补空白，产业链自主发展不可或缺产品和技术。公司拥有自主品牌和几十项专利技术，获得多项国家级荣誉称号(2021年获得**国家级专精特新“小巨人”**企业称号)。

华创重工主营产品包括多个系列设备成套系统（解决方案）和核心设备（产品），广泛服务于矿业（特别是露天采矿）、火电、钢铁、冶金、港口等行业：

（一）、物料破碎成套系统及核心设备：

半移动式一级破碎站（2000~12000t/h）、自移动式破碎站（3000~12000t/h）、重型板式给料机/输送机(1500~12000t/h)、双齿辊初级(筛分)破碎机（2000~12000t/h）、双齿辊二级(筛分)破碎机（1500~3000t/h)等。

（二）、物料输送成套系统及核心设备：

3000~18000t/h级大运量越野带式输送机/移置式带式输送机、3000~7500t/h级大运量气垫式输送机、1500~3000t/h级插板/带式给料机、翻带装置、半移动式机头站/机尾站、重型滚筒/托辊等。

（三）、物料搬运设备系统：

800~6000t/h级门架式刮板取料机、桥式滚筒混匀取料机、1500~6000t/h级斗轮堆取料机、6000~18000t/h排土机、3000~18000t/h胶带转载机（桥）等。

（四）、移置式模块化钢结构桥涵

200~450t级移置式模块化钢结构桥涵

华创重工坚持以目标客户需求、痛点难点为研发重点，紧紧围绕安全可靠、绿色环保、高效节能、智能化等需求痛点及趋势，立足自主研发+国际技术合作+产学研合作研发持续强化技术和产品研发，为客户提供**高效费比的安全可靠、绿色环保、高效节能、智能化**产品及服务，满足目标客户以“安全、环保、节能、智能”为标志的高质量发展目标需求，为客户创造更大的价值。

Huachuang Heavy Industry (Dalian) Co., Ltd. (TRSM) was founded in 2012 in the beautiful coastal city of Dalian China. TRSM is mainly engaged in the design, manufacturing, erection and service of equipment and complete systems for material crushing, conveying and handling. Adhering to the marketing concept of "technology quality and service both being the first-class" and of being market- & customer-oriented in the mining machinery sector, TRSM persist in the independent R&D and technological innovations, being enhanced on a high-level starting basis by the long-term deep cooperation with industry-international-leading multinational enterprises combined with the joint R&D mechanism of industry-university-professional research institute, we develop cutting-edge technologies and products in the mining machinery industry, and now are embarking on a new journey towards high-quality technological development. TRSM has the certificates and qualifications for the manufacturing and erection of mechanical and electrical equipment and systems, European standard certificates (EN1090, ISO3834), and ISO management certificates, with its own production facility totaling the annual capacity of 25,000 tons. TRSM' s quality and technical capabilities have been widely recognized by its customers at home and abroad, and it has many successful project references in the harsh and extreme cold regions, thus enjoys higher market reputation in the extreme cold regions. Some of the TRSM's products an technologies are indispensable for the autonomous development of China domestic material crushing, conveying, and handling equipment and systems, filling the gaps and bridging the weaknesses in key areas of the industry chain. The company has its own brand and dozens of patented technologies, and has won quite a few China national honorary titles (e.g.the **National-Level Specialized, Refined, Differential and innovative 'Little Giant' Enterprise** title in 2021. TRSM's main products and services cover a number of series ofcomplete equipment systems (solutions) and core equip-

ment (products), serving a number of industries such as mining (esp. open-pit mining), thermal power, iron & steel, metallurgy, port and ect.:

·Material crushing system and core equipment:

Semi-mobile Primary Crushing Station (2000~12000t/h), Fully-mobile Crushing Station (3000~12000t/h), Heavy-duty Apron Feeder/Conveyor (1500~12000t/h), Double-roll Crusher/Sizer (2000~12000t/h), Secondary Crusher/Sizer (1500~ 3000t/h) and etc.

·Material conveying system and core equipment:

3000~18000t/h Large Capacity Overland Belt Conveyor/Semi-mobile Belt Conveyor, 3000~7500t/h Large Capacity Air Cushion Conveyor, 1500~3000t/h Hydraulic Gate Feeder/ Belt Feeder, Belt Turning Device、Semi-mobile Head Station/Tail Station, Heavy-duty Pulley/Idler and etc.

·Material handling equipment system:

800~6000t/h Portal Scraper Reclaimer, Bridge/Drum Reclaimer, 1500~6000t/h Circular Yard Scraper Reclaimer, 6000~18000t/h Spreader, 3000~18000t/h Belt Transfer Bridge and etc.

·Relocatable modular steel bridge/culvert:

200~450t Capacity Relocatable Modular Steel Bridge/Culvert

TRSM adheres to treating the target customers' needs, application pain points and difficulties as its R&D and innovation focus, closely pursues meeting the market core demands and trends featuring “safety & reliability, environment friendliness, efficiency & energy-saving, and Intelligence”, based on independent R&D + international technical cooperation + industry-university-professional research institute joint R&D approach, TRSM continuously strengthen its R&D and technological innovation efforts to provide customers with the **cost-efficient "safe & reliable, environment friendly, efficient & energy-saving, intelligent"** products and services, meeting the target customers' demands for high-quality development goal symbolized by the a.m. 4 features, and creating greater value for customers.

国家级
National level



-50°C 平稳运行
Smooth operation

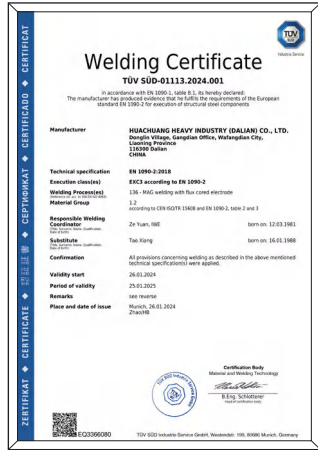
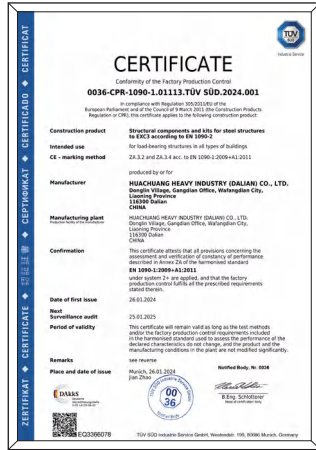


Qualifications

企业资质

QUALIFICATION CERTIFICATES

资格证书



PATENTS

专利



Products and Services

产品与服务

Material Crushing Equipment & Systems

物料破碎站设备系统

半移动式破碎站
自移动式破碎站
板式给料机
破碎机/筛分式破碎机
钢挡墙

- semi-mobile crushing station
- fully-mobile crushing station
- apron feeder
- crusher/sizer
- steel retaining wall

Material Conveying Equipment & Systems

物料输送设备系统

各类带式输送机(含气垫悬浮输送机)
板式给料机
无动力除尘导料槽
曲线落料管
半移动式机头站
机尾站
翻带装置
受料装置
带式给料机
液压插板给料机
防冻粘清扫装置系统等

- various belt conveyors (incl. air cushion conveyor)
- apron feeder
- powerless dust suppression chute
- curve chute
- semi-mobile head stations
- tail station
- belt flipping device
- hopper
- belt feeder
- hydraulic gate feeder
- anti-freezing&sticking cleaning device etc.

Material Handling Equipment & Systems

物料搬运设备系统

门架式刮板取料机
斗轮式堆取料机
排土机/皮带转载机

- portal yard scraper reclaimer
- bucket wheel stacker & reclaimer
- spreader/ belt transfer bridge

Relocatable modular steel bridge/culvert

移置式模块化钢结构桥涵

移置式模块化钢结构桥涵

- relocatable modular steel bridge/ culvert

Semi-mobile Crushing Station

半移动式破碎站

半移动式破碎站是露天矿地面生产系统-破碎和输送系统的关键设备。大块矿物由矿车卸载到给料仓中，给料仓内的物料由板式给料机输送至破碎机内，经破碎后的物料破碎机下方的溜槽转载至排料胶带输送机。

华创重工的半移动破碎站采用模块化设计，主要分为三大模块，即：料斗模块、破碎机模块和电气室模块。模块底部设有钢浮桥/滑橇，能有效减低对地比压以适应在露天矿回填土区域安装运行，也方便未来转场生产的移设需要。未来转场移设时，可以大模块采用驮运或拖拽高效率移设，也可拆解成更小模块，用卡车运输进行常规移设，

破碎平台挡土墙采用模块化钢结构挡土墙，相比混凝土挡土墙，未来转场移设时可重复利用，综合成本低且低碳环保。

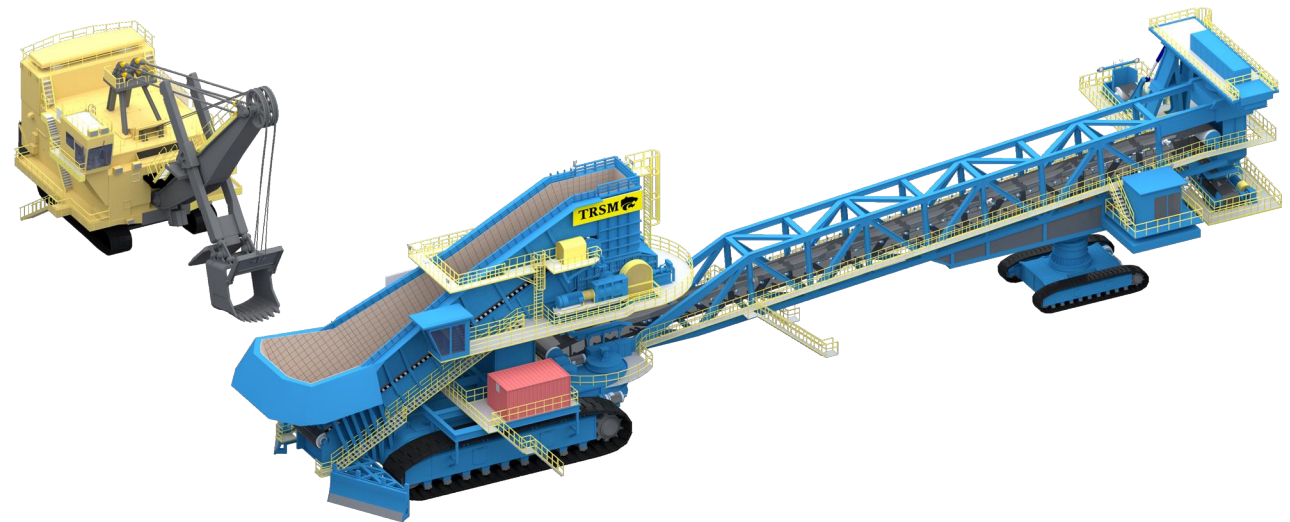
The semi-mobile crushing station is the Key equipment of the surface production system for open-pit mines-the crushing and conveying system. The minerals with large-size blocks are unloaded from mining trucks into the feed bin. The materials in the feed bin are transported to the crusher by an apron feeder, and the crushed materials are transferred to the discharge belt conveyor through the chute below the crusher. TRSM's semi-mobile crushing station adopts modular design and is mainly divided into three major modules: the hopper module, the crusher module, and the electrical house module. The bottom of the module is equipped with steel pontoons/skids, which can effectively reduce the ground pressure to adapt to installation and operation in backfilled soil areas of open-pit mines, as well as facilitate future relocation and production needs. For future relocation, large modules can be efficiently moved by carrying or dragging, or disassembled into smaller modules for conventional relocation by truck transportation. The retaining wall of the crushing platform uses modular steel structure shear walls, which, compared to concrete retaining walls, can be reused when the crushing station is relocated in the future.



Fully-mobile Crushing Station 自移动式破碎站

自移动式破碎站是露天矿半连续地面生产系统-坑内破碎和输送系统的关键设备，设有履带行走机构和回转机构，用于露天矿开采作业，直接由液压挖掘机或电铲给料，可省去运行成本高昂的矿卡作业。

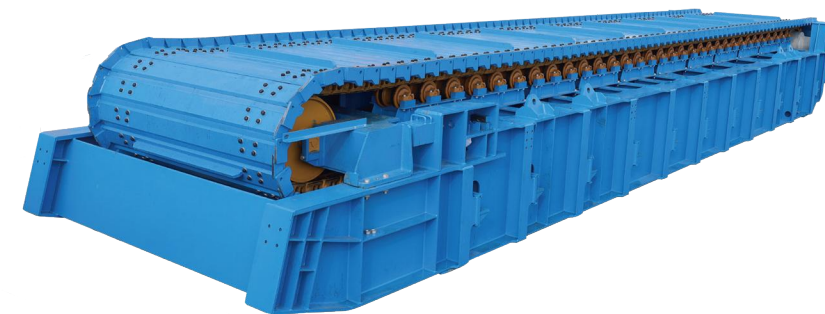
The fully-mobile crushing station is the core equipment at the forefront of the semi-continuous surface production system for open-pit mines (the in-pit crushing and conveying system). It is equipped with crawler traveling mechanisms and slewing mechanisms, used for open-pit mining operations. It can be directly fed by excavators or electric shovels, eliminating the need for costly mining truck operations.



Heavy-duty Apron Feeder 重型板式给料机

重型板式给料机是半移动式破碎站或自移动式破碎站的关键设备之一，也可作为输送系统中的能承载冲击或大仓压的转载设备。华创重工重型板式给料机采用国际知名驱动装置及标准D4-D11链轮、惰轮、承载轮、托链轮等链传动装置，具有终身免维护的特点，大幅降低了维护工作量。焊接或铸造承载板设计采用特殊的"H型"截面，承载板每隔一定距离采用带“止滑带”设计。

The heavy-duty apron feeder is one of the key pieces of equipment in a semi-mobile crushing station or a self-mobile crushing station and can also serve as a transfer equipment capable of withstanding impact or large silo pressures within the conveying system. TRSM's heavy-duty apron feeder utilizes internationally renowned driving devices and standard D4-D11 chain drive system comprising of sprockets, idler wheels, carrying wheels, chain supporting wheels, and etc., featuring lifetime maintenance-free characteristics, which significantly reduces the maintenance work load. The welded or cast load-bearing pans are designed with a special "H-shaped" cross-section and feature a skid-resistant strap design at regular intervals.



Double-roll Crusher/Sizer 双齿辊筛分式破碎机

双齿辊破碎机广泛应用于煤矿、铁矿和有色矿山用于矿物的初级破碎和二级破碎工序，它是通过两个破碎辊之间或破碎辊与安装于破碎腔侧壁的破碎梳齿之间的挤压和剪切对矿物进行破碎的。

The double-roll crusher/sizers are widely used at coal, iron ore and nonferrous mines for the primary and secondary crushing processes, they crush materials through compression and shearing between two crushing rolls or between the crushing rolls and the crushing teeth installed on the side housing.



**3000t/h double roll
secondary sizer
(coal crushing) driven by
hydraulic motor
液压马达驱动3000t/h
二级破碎机（毛煤）**

Semi-mobile Belt Conveyor and Drive Station

移置式带式输送机 and 驱动站

移置式带式输送机主要特点：灵活适应性强和整体转场移设性好。这类输送机特别适用于需要频繁改变物料搬运位置的场合，如露天采矿连续工艺地面生产系统。

华创重工移置式带式输送机的机头站、机尾站采用浮筒或滑橇设计，中间架采用滑橇或轨枕设计，具有优异的方便转场移设特性。这种设计使得整个系统可以根据工作面的推进而轻松地移动位置，而无需拆卸任何机械或电气设备。华创重工设计的移置式带式输送机可采用履带车驮运或推土机拖拽转场移设，大幅缩短生产系统转场移设时间。

机头驱动站是整个输送机的关键部分，驱动站的设计和性能对于确保设备的高效运行至关重要。华创重工设计方案技术先进且项目实施经验丰富，特别是在-50℃极寒地区具有众多成功运行项目业绩。

The main features of the semi-mobile belt conveyor include strong flexibility and adaptability, as well as excellent relocation mobility of the complete equipment/system. This type of conveyor is particularly suitable for situations that require frequent changes in material handling positions, such as continuous process ground production systems in open-pit mining.

At TRSM, the head and tail stations of the semi-mobile belt conveyor are designed with pontoons or skids, while the intermediate frames use skids or track sleepers, providing exceptional convenience for site relocation. This design allows the entire system to be easily moved according to the advancement of the working face, without disassembling any mechanical or electrical equipment. The relocatable belt conveyor designed by TRSM can be relocated by crawler vehicles or dragged by bulldozers for site relocation, significantly reducing the time required for production system relocation.

The head drive station is a crucial part of the entire conveyor system, and the design and functionality of the drive station are essential for ensuring the efficient operation of the equipment. TRSM's design solutions are technologically advanced and have extensive experience in project implementation, especially with quite a few successful operational projects in extremely cold regions of -50°C.



Semi-mobile Belt Flipping Device

移置式翻带装置

目前带式输送机头部及尾部翻带装置大多采用固定基础式，需建设土建栈桥，成本高，不可移置，且经常因矿区回填土地址条件影响出现基础塌陷、沉降等问题，华创重工设计的专利产品半移动式翻带装置，很好的解决了这些问题。安装施工简单，受地质影响时可随时调整定位。

Currently, most of the belt-flipping devices at the head and tail ends of belt conveyors use fixed foundations, requiring the construction of civil engineering trestles, which are costly and immovable. Additionally, they often encounter issues such as foundation collapse and settlement due to the impact of backfill soil conditions in mining areas. TRSM has designed a patented semi-mobile belt-flipping device that effectively addresses these problems. The installation and construction are simple, and the positioning can be adjusted at any time when affected by geological conditions.



Semi-mobile Conveyor Head and Tail Station

移置式机头站/机尾站

The HYD series semi-mobile head station, designed and manufactured by TRSM as a patented product, integrates the head discharge chute, drive devices, tensioning device, pulleys, and other sub-devices in an optimized layout on a single steel structural skid. This semi-mobile head station can be relocated as a whole using traction equipment such as bulldozers, significantly saving on the workload and time required for site transfer.

The semi-mobile tail station integrates the tail receiving device, buffer roller/buffer bed, guide trough, tail drum, and other sub-devices on a single steel structural skid. It can be moved and transferred as a whole either by lifting or towing, greatly reducing the workload and time.

华创重工设计、制造的专利产品HYD系列半移动式机头站，将机头卸料溜槽、驱动装置、拉紧装置、机头滚筒等各子设备合理优化布置集成安装在整体钢结构滑橇上，该半移动式机头站可通过推土机等牵引设备进行整体转场移设，大幅节约转场移设工作量和时间。

半移动式机尾站将尾部受料装置、缓冲托辊/缓冲床、导料槽、机尾滚筒等各子设备集成安装在整体钢结构滑橇上，可采用吊装式或牵引式整体移设转场，大幅节约工作量及时间。



Spreader 排土机

排土机是露天矿连续工艺地面生产系统尾部关键设备，设有履带行走机构、回转机构、受料臂、排料臂机构等，用于露天矿开采作业岩土剥离工艺，承接带式输送机输送来的经破碎后的岩土物料并排至到排土场。

The spreader is the core equipment at the end of the open-pit mine continuous process ground production system. It is equipped with a crawler traveling mechanism, slewing mechanism, receiving arm, and discharge arm mechanisms and ect. It is used in the overburden removal process during open-pit mining operations, receiving crushed rock and soil materials conveyed by the belt conveyor and discharging them into the spoil disposal area.



Portal Scraper Reclaimer 门架式刮板取料机

全门架式或半门架式刮板堆取料机可以用于原煤、铁矿石、铜矿石、石灰石等多种松散物料，除在作业效率、操作灵活性方面具有优势外，在环保性能方面具有显著优势，在作业过程中能大幅减少粉尘的产生和扩散，对环境的污染较小，这对于需要严格控制环境污染的行业来说尤为重要。

Portal or semi-portal scraper reclaimers can be used for a variety of loose materials such as raw coal, iron ore, copper ore, limestone, etc. In addition to their advantages in operational efficiency and flexibility, they also have significant environmental performance benefits. During the operation process, they can greatly reduce the generation and diffusion of dust, resulting in less environmental pollution. This is particularly important for industries that require strict control over environmental pollution.



Relocatable Modular Steel Bridge/Culvert 移置式模块化钢结构桥涵

移置式模块化钢结构桥涵作为混凝土桥涵或钢波纹板拱桥的替代产品，能根据生产需要灵活设置，有效缩短露天矿卡车运距，转场移设时具备高复用率特点，综合运行成本最优，在露天矿山广泛应用。

华创重工的移置式模块化钢结构桥涵产品系列覆盖200~450T承载能力，均采用模块化设计，根据现场实际需求，可以是单孔或多孔，可以跨单运输线，也可跨多条运输线，满足任意组合需求。目前中国华能集团伊敏露天矿在用的桥涵有单孔单线，单孔双线，三孔五线几种形式。移置式钢结构桥涵基础施工较为简单，只需在辅桥支撑梁、主桥支撑梁处地面换填500mm深基配砂石，范围大于基座周围200mm，夯实系数97%，承载能力不小于200Kpa，压缩模量不小于14Mpa即可满足安装、使用条件。

The relocatable modular steel structure bridge culvert, as an alternative product to concrete bridge culvert or steel corrugated plate arch bridge, is suitable for flexible deployment according to production needs and can effectively shorten the haul distance of open-pit trucks, it has the characteristics of high reuse rate when transferred, and the comprehensive operating cost is optimal. It is widely used in open-pit mines.

TRSM's relocatable modular steel structure bridge/culvert product series cover 200~450T load capacity range, all adopt the modular design. According to the actual needs on site, it can be single-span or multi-span design, can span a single conveyor line, or can span multiple conveyor lines, meeting any combination of needs. At present, there are several forms of bridges/culverts in use at the China Huaneng Group Yimin open-pit mine, including single-span for single line, single-span for double lines, and three-span for five lines.

The construction of relocatable modular steel structure bridge/culvert foundation is relatively simple. Simply replace the ground with 500mm deep foundation sand and gravel at the support beams of the auxiliary bridge and the main bridge, with a range greater than 200mm around the base.

The compaction coefficient is 97%, the bearing capacity is not less than 200Kpa, and the compression modulus is not less than 14Mpa to meet the installation and use conditions.



Equipment and System Solution Technology Upgrading R&D

设备及系统解决方案 技术升级研发

1. 露天矿(煤炭、铁矿及有色矿)半连续地面生产系统解决方案 (矿物开采与岩土剥离)

工艺A: 单斗卡车 - 半移动破碎站 - 排料输送机 - (或二级破碎机) - 长距离输送机 - (或排土机)

工艺B: 电铲 - 自移式破碎站 - 转载机(桥) - 电缆漏斗车 - 长距离输送机 - 二级破碎机或排土机

关键设备/系统:

半移动式破碎站、自移式破碎站、双齿辊破碎机、旋回破碎机、重型板式给料机、转载机(桥)、电缆漏斗车、排土机、长距离带式输送机

2. 露天矿(煤炭、铁矿及有色矿)全连续地面生产系统解决方案 (矿物开采与岩土剥离)

工艺: 轮斗挖掘机 - 转载机(桥) - 电缆漏斗车 - 长距离输送机 - 二级破碎机或排土机

关键设备/系统:

轮斗挖掘机、转载机(桥)、电缆漏斗车、长距离带式输送机、排土机



1. Semi-continuous Surface Production System Solution for Coal, Iron ore, and Nonferrous Open-pit Mines(Mineral mining and Geotechnical Stripping)

Process A:

Single bucket truck - Semi-mobile crushing station - Discharge conveyor - (or Secondary crusher) - Long distance conveyor - (or spreader)

Process B:

Electric shovel - Fully-mobile Crushing Station- Belt transfer bridge -Cable hopper car - Long distance conveyor - Secondary crusher or spreader

Critical equipment / system:

Semi-mobile crushing station, Fully-mobile Crushing station, Double-roll crusher, Gyratory crusher, Heavy-duty apron feeder. Belt transfer bridge, Cable hopper car, Spreader, Long distance belt conveyor

2. Fully-continuous Surface Production System Solution for Coal, Iron ore, and Nonferrous Open-pit Mines(Mineral Mining and Geotechnical Stripping)

Process:

Bucket wheel excavator - Belt transfer bridge - Cable hopper car - Long distance conveyor - Spreader

Critical equipment / system:

Bucket wheel excavator. Belt transfer bridge, Cable hopper car, Long distance belt conveyor, Spreader