TOMRA Sorting Solutions provides sensor-based sorting technology to optimize the way we handle the world’s precious resources. Our proven technology and specialist expertise in recycling, mining and food are the reasons why our customers choose us as preferred supplier:

+ Integration of versatile technologies to create new applications
+ Ongoing investment in R&D to deliver even more advanced sorting solutions
+ Worldwide service network – always close at hand
+ Proven performance: 10,000 installations in the field

www.tomrasorting.com/mining
In a world where constraints on carbon emissions are more and more enforced, coal will still continue to play a large and indispensable role, says a recent MIT-study on “The Future of Coal”.

Therefore the demand for cleaner coal is rising – with power plants putting more effort into quality-control and suppliers being held accountable for poor quality. In meeting this demand, today’s mining industry faces multiple challenges: e.g. water shortages, the need to exploit lower grade coal deposits or increasing environmental legislature.

Sensor-based sorting of coal is one efficient way to meet these challenges. And more: A consistent, high-quality product even from low-grade deposits leads to higher returns and it can safeguard your status as a trusted coal supplier.

**Dry Cleaning of Coal Opens New Opportunities**

**Why Invest into the De-Stoning of Coal?**

**Sensor-based De-Stoning of Coal: Sustainable Use of Resources**

- Energy savings: Don’t haul rocks and water, just the coal!
- No waste of energy in burning process: Don’t burn rocks!
- Water savings: Water is rapidly becoming a scarce resource.
- Dry coal beneficiation in arid regions.
- Resource productivity: Treatment of marginal coal enables higher resource utilisation.
- Environment: Avoid costly rehabilitation of coal slimes!
- Emission: Reduce your carbon footprint!

**Incentives** + Sorting Process + Sorting Result + Process Upgrade + Service
Today there are three technologies used to beneficiate coal:

1. **Dense Medium Separation (DMS)**
   - It is the most widely used coal processing technology which provides accurate density cuts. This wet process however requires not only huge amounts of water but also dense media powder such as magnetite – which is becoming increasingly more expensive. DMS fines/slimes are costly to handle and dispose in an environmentally friendly manner.

2. **Jigging**
   - The jigging plants are not as accurate as DMS in density separation. Although less costly, to operate wet jigs still requires lots of water which needs expensive treatment. Dry jigging processes are less efficient than wet jigs. Dry jigs also have the disadvantage of not being able to process adhesive wet coal in rainy conditions.

3. **Dry Sensor-based Sorting**
   - It allows high tonnages with good separation efficiencies. It is flexible: the sorting algorithm can be easily varied to separate different coal grades. The modular plant design gives the flexibility to move the plant with ease or to expand the plant by adding further modules. The sensor-based sorting technology requires no water and no expensive water treatment system. It can be applied in all weather conditions; wet or freezing conditions do not affect the sorting efficiency.
   - XRT (X-ray transmission) sorting of coal is well suited for the treatment of run-of-mine coal close to the mining face and for the processing of coarse coal waste dumps that contain a lot of out-of-seam or in-seam dilution.

**The Sorting Process**

*Dry cleaning of coal – state of the art*

- **Incentives**
- **Sorting Process**
- **Sorting Result**
- **Process Upgrade**
- **Service**
Sensor-based sorting systems are designed to produce high quality coal at maximum yield, at low operating and rehabilitation cost as a result of reduced slimes treatment and storage capacities.

**TO ACHIEVE THE BEST RESULTS IN SENSOR-BASED SORTING THREE KEY FACTORS HAVE TO BE ASSURED**

1. **TEST WORK AND ANALYSIS:**
   - TOMRA runs well-equipped test centers on all five continents to ensure the highest degree of quality and efficiency in sorting applications.

2. **CRUSHING AND SCREENING:**
   - The correct size ratio of the feed material is essential for effective sensor-based sorting.

3. **ADEQUATE AUXILIARY PLANT EQUIPMENT:**
   - All components of the sorting plant need to fit the correct specification to ensure consistent process and highest quality results.
MADE FOR MINING

TOMRA sorting technology is designed for mining and high capacity sorting machines. Our systems are individually tailored and can be seamlessly integrated into existing mining processes. Our team of mining experts with years of experience guarantee professional process consulting.

HIGH-SPEED DE-STONING

Sensor-based sorting with X-ray transmission is a viable dry-processing technique which can be applied to de-stone coarse raw coal. It is a cost-effective process which will improve quality of the coal in terms of reducing the ash, improving the calorific value and reducing the abrasiveness index as well as the sulphur content of the coal.

A containerised mobile TOMRA Sorting Solutions single sorter plant can effectively de-stone coarse –120mm +50mm ROM feed at 150tph capacity.
Ensuring consistent sorting performance
High availability
Costs, energy and time saving
Maintaining optimal feed rate
Regular technical updates

YOUR BENEFITS
AT A GLANCE

+ Ensuring consistent sorting performance
+ High availability
+ Costs, energy and time saving
+ Maintaining optimal feed rate
+ Regular technical updates

TOMRA SORTING SOLUTIONS SERVING AND COACHING PROGRAM

TOMRA Sorting Solutions Mining is part of TOMRA Sorting Solutions, which is a world leader in sensor-based sorting technology. TOMRA Sorting Solutions is continuously improving and expanding its worldwide service network. This helps TOMRA Sorting Solutions Mining to offer first-class after-sales service and comprehensive support, available for every customer anywhere in the world within a minimum of time.

To ensure that your system operates at the highest performance level, TOMRA Sorting Solutions has created a sustainable service and coaching programme. Participating is worth your while – mitigating the risk of low performance and downtimes; revenues will increase by ensuring consistent recovery rates and product quality.

Regular professional maintenance of the sophisticated sorting systems is necessary to ensure consistent sorting performance. Technical experts carry out professional repairs using specialised equipment. With the experience gained from hundreds of comparable machines in the market our service and support team can set and adjust the systems accurately. Regular technical updates for each machine are included.

We offer special training courses by our TOMRA experts who will coach your staff in fault-finding, basic maintenance and detailed operating instruction of your capital investment.

TOMRA Sorting Solutions Mining

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We print on 100% recycled paper to reduce our carbon footprint. You can reduce yours by using our sensor-based sorting equipment.

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Dry De-stoning of Coal

Sensor-based ore Sorting since 1988

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