

Business Offer

Italian producer of proprietary, automatic recycling machines of CRT (cathode ray tube) monitors and glass seeks acquisition agreement.

Summary

An Italian company manufactures two automatic machines for recycling of CRT monitors and glass. The system represents the most advanced, environmentally friendly, and cost effective solution for recycling of the old types of monitors and constitutes the key factor to transform them into valuable materials. The company's owner recently decided to retire and is now seeking a business partner interested to take over the whole company through an acquisition agreement.

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Details

Description

This Italian company has developed, designed and manufactured an innovative machine for separating the base materials of CRT of monitors and televisions. The system can be equipped with an auxiliary module (tumbler), which removes the surface coatings from the two types of glass used in a CRT in order to make the glass useful for further reuse.

Feature of the machine:

Screen glass (which amounts to approx. 60% of the total weight of a CRT) and funnel glass recovered by this system can be further recycled either by the glass industry itself, or by different sectors as a secondary raw material for ceramic tiles, thermal insulants, etc, or used for special processes (i.e., as fluxant in lead smelters).

The only residuals of the process are the sludge from the water filtering system, and the filtration powders from the tumbler. Even the luminescent powders (phosphors, made of precious rare-earth metals) are safely collected apart and could be used for rare earth reclamation by means of specific material recovery systems that are not considered here.

Applying this recycling system to the conventional TV-set recycling business allows for a total recovery efficiency of old TV-sets and monitors (98%), which makes it one of the most economic, environmental-friendly, and safe recycling process in the world.

Outline of the situation:

Since the introduction of television broadcasting, cathode ray tube (CRT) screens represented the predominant technology used for displaying images. Over the last ten years, CRT technology has been gradually replaced with new digital imaging technologies (such as LCD / plasma / LED / oled devices), leading to a massive disposal of old televisions and computer monitors worldwide. Even if some countries have dealt in a timely manner with the issue of huge

numbers of CRT appearing at the landfill sites, introducing a clear recycling regulation, in many areas of the world the disposal of millions of tonnes of this type of e-waste has been neglected. Even in the USA (where tens of millions of CTR are still stored in different sites), despite long-standing industry efforts to encourage CTR recycling, regulators still confuse scrap recyclers with solid and hazardous waste companies, so to prevent the use of secondary materials as inputs at recycling operations. One of the reasons for this confusion is partly linked to the presence of hazardous materials in the CRT glasses, which makes the cutting and sorting process a crucial step for a sound recycling business. In fast emerging economies (as China and India) end-of-life CRT glasses are either stockpiled after disassembly, or directly broken by hand to recover the copper-gun located inside them (thereby releasing highly toxic substances in the environment).

Partnership found:

Having marketed this machinery in Italy for several years, the company is now selling its proprietary drawings, software, and technological know-how to business investors interested to take over the production of the machines under acquisition agreements.

Advantages and Innovations

The recycling process developed by the company is unique in its kind, being not only a valid alternative to the CRT disposal in landfills, but also to conventional CRT cutting systems. In fact, this machine is the only CRT separator in the world that does not require any air filtration system, which turns into a drastic abatement of the operational costs, and to a huge benefit on the working environment.

The main benefits:

- cost optimization,
- high safety for operators' health
- environment friendly.
- minimal workforce
- handle large volumes of TV-sets and monitors at lower costs

Mode of operation:

- Panel and funnel glasses are first carefully separated and then specifically treated in order to be recycled
- The screen glass reclaimed with this system is lead and yttrium free, which makes it compliant even with the most hard standards
- The funnel glass, on the other side, is transformed into silicates and pure metallic lead.
- The only residuals are the sludge from the wet cutting and cleaning process, and the filtration powders from the tumbler
- The luminescent powder (phosphors) is safely collected apart and used for rare earth reclamation
- Processing speed: up to 60 screens per hour (compared to 10 CRT/h with conventional machines)
- One operator is required; CRT size range: from 12" to 40" inch diagonal; no particular chemical agents required

Stage of Development

Already on the market

IPR Status

Patents granted

Keywords

Technology

02002009 Machine Tools

Market

08002007 Other industrial automation

NACE

C.28.9.9 Manufacture of other special-purpose machinery n.e.c.

Open for EOI : **Yes**

Client

Type and Size of Organisation Behind the Profile

Industry SME 11-49

Year Established

1970

Turnover

1 - 10M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English

Client Country

Italy

Partner Sought

Type and Role of Partner Sought

Many different factors led the company to the conclusion that the costs associated with the manufacturing of CRT recycling plants in Italy has become too high, to make this business profitable. On the contrary, the production of these plants in other countries (mainly, emerging

economies), would be the key solution to lower the price and make the plant competitive for those markets where there's a high demand for CRT recycling.

Type of partner sought:

Investors interested to take over the business and continue the production and sales activity of the recycling facilities through acquisition agreements.

Recycling company who has nets to collect waste of electric and electronic equipment (WEEE) could be a good candidate.

The potential partner is expected to buy the design patents and the know-how of the line machineries protected by patents.

In order to facilitate the start-up of the production, the company is available to assist the partner during the early stages of the manufacturing of the recycling plants, including the commissioning of the first project, and make him autonomous in this business.

Specific area of activity of the partner sought:

Industrial machineries for waste electrical and electronic equipment recycling (WEEE recycling) or glass recycling.

Type and Size of Partner Sought

SME 11-50, SME <10, SME 51-250

Type of Partnership Considered

Acquisition agreement

Attachments
