

Technology Request

Seeking expertise for the development of an optical sorting system for mixed paper wastes

Summary

A Singapore SME specialising in waste paper management is seeking technologies or expertise to automate the identification, characterization and sorting of mixed paper waste to improve their current operations. The company seeks a licensing or research cooperation partnership with industrial partners (22-500 employees) or R&D institutions.

Creation Date	26 July 2016
Last Update	26 July 2016
Expiration Date	26 July 2017
Reference	TRSG20160719001

Details

Description

The Singapore SME is one of the key providers in the waste paper management industry in Singapore. It is an international company with partners from different global regions.

Sorting and separation of post-consumer recovered paper currently requires extensive manual processing which is laborious and human error is considerable.

As such, a reliable automated optical paper sorting system is required.

Types of partnerships sought include:

- i) Licensing Agreement
- ii) Research cooperation agreement

Types of partners sought include:

- i) 251-500
- ii) R&D Institution
- iii) SME 11-50
- iv) SME 51- 250

Technical Specification or Expertise Sought

The solution should comprise an optical based detection system with a simple and reliable sorting mechanism to allow sorting of mixed paper waste into different paper grades.

The detection system may consist of an array of optical sensors combined with advanced digital signal process and software algorithm to perform recognition of components in the mixed waste feed by material and colour travelling on a conveyor belt at a speed of up to 3 m/s.

Different kinds of materials such as colour printed and non-printed cardboard, catalogues, newspaper, magazines, and plastics should be identified. The solution should have a degree of flexibility and future usability for other materials sorting or multiple grade sorting capabilities.

The solution should be able to characterize paper (deinking), paper (non-deinking), plastics and others with at least 95% accuracy and sorting performance of at least 80%. The system should be reliable, easy to calibrate and able to operate at wide operating temperature ranges.

Possible materials that would be identified and rejected:

Non-paper products:

- Plastics
- Liquid packaging board / Tetra
- Textiles
- Metals and many other materials

Removal of:

- Brown and gray cardboard
- Corrugated cardboard
- Folded boxes
- Coloured printed cardboard
- Synthetic paper
- Plastic-laminated paper

Stage of Development

Available for demonstration

Comments Regarding Stage of Development

Preferably ready for market. At least a working prototype of Technology Readiness Level 7.

Keywords

Technology

10003 Waste Management

Market

09003007 Other services (not elsewhere classified)

NACE

E.38 Waste collection, treatment and disposal activities; materials recovery

E.38.1 Waste collection

E.38.1.1 Collection of non-hazardous waste

Network Contact

Issuing Partner

BERLIN PARTNER FUER WIRTSCHAFT UND TECHNOLOGIE GMBH

Contact Person

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Open for EOI : Yes

Client

Type and Size of Organisation Behind the Profile

Industry SME 50-249

Year Established

0

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English

Client Country

Singapore

Partner Sought

Type and Role of Partner Sought

Types of partnerships sought include:

- i) Licensing Agreement
- ii) Research cooperation agreement

Types of partners sought include:

- i) 251-500
- ii) R&D Institution
- iii) SME 11-50
- iv) SME 51- 250

Type and Size of Partner Sought

SME 11-50,R&D Institution,251-500,SME 51-250

Type of Partnership Considered

License agreement
Research cooperation agreement