CATALOG EQUIPMENT
TYRE RECYCLING INDUSTRY

REGOM
TYRES REUSE SOLUTIONS

www.regommachinery.com

REGOM

REGOM develops innovative machines and software solutions to extend tyre life and analyze information from used tyres for better identification.

Dedicated to the development, manufacturing, and maintenance of semi-automated used tyre sorting machines, at REGOM, we aim to facilitate human labor, management, and selection operations.
Through industrial sorting, these innovative systems are capable of profoundly improving sorters' working conditions, making productivity more reliable, and perfecting recovery criteria.

Thank to our experience for many years in the collection and sorting of used tyres, for the french ecoorganism Aliapur, we have been working for many years to develop solutions capable of simplifying operations. This extremely physical and complex activity is hard to manage because of its difficulty and business complexity.

Our offers are developped to answer the identification and separation needs of tyre recyclers: material recovery, valorization, reuse, granulation and retreading . To adapt to the characteristics of each type of infrastructure, we decided to design MTP-TRI in a way that it could be implemented on any type of recycling line. With our own 2 collection and sorting plants, we are constantly doing R&D and working on ways to adapt the machine to our customer's needs and constraints thanks to our incredible technical and IT teams.

REGOM'S MISSIONS

IMPROVE WORKING CONDITIONS

Reduce drudgery
Increase security and safety
Enhance job attractiveness
Facilitate learning and training process

REFINE AND OPTIMIZE VALORIZATION

Refine pricing and sorting
Bring production tracking
Simplify administrative and operation tasks
Create individual used tyre's characterization

ADAPT TO TOMORROW'S MARKET

Extend lifetime of tyres
Traceability
Valorization : Devulcanization, Material recovery, Pyrolysis...
Online sales for reusable tyres
Collaboration among tyre recyclers

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OUR OFFERS

MTP-TRI (LV)

A semi-automated sorting machine capable to recognize and analyze used light vehicle tyres to better sort and identify them in order to improve their recycling.

designed for Used Light Vehicle tyres

SORTING TABLE

Simple and double sorting tables for sorting operators used for the physical control, completion of identification and direction of tyres to the right outflow.

designed for Used Light Vehicle tyres

SOFTWARE

Suite of sorting software designed for the applications and works of tyre recycling industry. It allows to follow production, set up the machine, keep track of tyres and adjust activities.

specific set ups for client's activities

MTP-TRI (TT)

A semi-automated sorting machine capable to recognize and analyze used truck tyres to fill up identification information in order to improve their recycling.
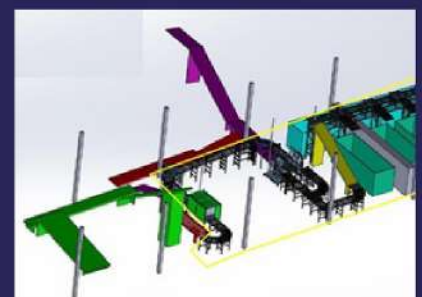
designed for Used Truck tyres

ENGINEERING

Field study, process, implementation, training, maintenance and updates, we help you maximize the potentials of your sorting line to help your business grow.

specific for each client's activities

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MTP-TRI (LV)

MTP-TRI, SEMI-AUTOMATED SORTING MACHINE FOR END-OF-LIFE LIGHT VEHICLE TYRES

MTP-TRI (LV) is a sorting machine for used light vehicle tyres that facilitates and automates the identification, separation, and routing of tyres to the right valorization outflow.

Based on artificial intelligence, vision measurement, and configured according to your sorting criteria, the machine identifies tyres and helps the sorting operator direct them to the convenient outflow.

Tyres enter one by one in the machine at an industrial speed rate of 1 tyre every 3 seconds. The MTP machine recognizes the different information present on tyre sidewalls and tread wear.

The MTP machine recognizes and measures :

- **Brands (+115)**
- **Profiles (1.200)**
- **Dimensions (150) from 13 to 23 inch**
- **Weight (+/- 50g)**
- **Remaining Tread wear (+/-0.1mm)**
- **DOT** (last 4 digits)
- **Speed and Load indexes**
- **C, 4x4 and SUV tyres**

Depending on the information read and the configuration of the sorting lists, the machine sort automatically tyres to the customer's dedicated applications (automatic sorting, physical control, etc...).

MTP-TRI (VL) of collector and reseller.
Application : reuse, resell, shredding.

Inside MTP-TRI (VL) of collector and reseller.
Application : reuse, resell.

MACHINE CHARACTERISTICS

Speed rate : **1 tyre every 3 seconds**

800 to 1.000 tyres per shift hour

Machine's accuracy rates :
- **90% brand and profile** recognition
- **90% dimensions** recognition
- **99% wear** measure accuracy
- **99%** accuracy on machine's autonomous **decision-making**

Unitary identification of tyre

Can be operated by 1 person or more

MTP-TRI (VL) of collector and reseller.
Application : reuse, resell.

TECHNICAL REQUIREMENTS

- Light vehicle tyres
- Rubber tyres Ø450 mini, Ø850 max
- 27 kg maximum (evenly distributed load)
- Clean 5°C indoor environment, 40°C max.
- Neutral electric power supply 380V, 30A, 3 phases
- Network connection
- Dry tyres are preferable to have the full recognition potential of the machine

MTP-TRI (LV)

ELEMENTS	COMPOSITION & DESCRIPTION	IMAGES & PICTURES
ACQUISITION BOX (LV)	Sorting AI machine • Mechanical welded box (4x2m, 2,000kg) • SMART acquisition camera for reading tyre's flank • Electrical cabinet • Air conditioning • Specific LED lighting Full automation system, control and computer system Automated referral of tyres to relevant destinations • Siemens automation cabinet • Communication socket • Computer / server cabinet • Control screen (keyboard/mouse) • Controlled conveying system	
AUTOMATIC WEIGHING (option)	• Weight sensors cells +/- 50g • System integration (PreciaMolen) • Load cell/sensor support	
WEAR MEASUREMENT (option)	• Calibrated 2D/3D profilometer for measuring residual depth • Configuration and settings • Calibration test pattern	
TECHNOLOGIC IMPLEMENTATION		
AUTOMATIC DISTRIBUTION DOOR (option)	• Automated evacuation • Door programming • Connection to button boxes or touch screens • Controlled storage area (Only with Interroll / ITOH / SEW equipment)	
BUFFER ZONE (option)	• Programming of MTP upstream and downstream buffer zones (Only with Interroll / ITOH / SEW equipment)	

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SORTING TABLE

SIMPLE AND DOUBLE SORTING TABLES

The work of operators is crucial for the correct switching of tyres according to their condition but it is also extremely painful and physical. We completely redesigned their workstation to limit musculoskeletal problems among workers and to reduce the handling while allowing the best use of their sorting skills by concentrating it on high-value tyres.

To meet the needs of some of our clients (retreaders, and ressellers) who need to do a more complex and specific physical control, we developed sorting tables.

The sorting tables made for 1 to 2 people are designed to improve operators' working conditions by reducing drudgery, increasing safety, and helping with the identification of tyres.

Information about tyres is transmitted from the machine to be displayed to the attached hanging screens connected to the tables.
Tyres arrive one by one on the side and can be slid in front of the operator to be physically controlled.

If the tyre is not fit for reuse, retreading or match sorting rules, it can be lightly pushed in front of the operator to end up in scrap.
If the tyre has the potential to be valorized, it is put on the conveyor next to the operator to be conveyed to the relevant destination door by pressing the corresponding button.

Sorting table of LV collector and reseller.
Application : reuse, resell, shredding.

Sorting table of LV retreader.
Application : retreading.

WORKING STATION FOR 2ND SORTING

It is possible to add a touch screen fixed on the sorting table to add or modify information about the tyres, it is often used to keep track of all the data about the tyre before a pressure test or shearography process.

To keep the data linked to the tyre in a linear process that will lead tyres to be stocked, it is possible to add a barcode generator and reader to the sorting table.

ELEMENTS	COMPOSITION & DESCRIPTION	IMAGES & PICTURES
SORTING TABLE FOR 1st SORTING **(option)**	• Mechanical welded frame • Electrical cabinet • Siemens control cabinet • Communication socket • 21-inch display screen • LED lighting for sorter • Galva rollers • Automation system with evacuation buttons (Option with 23.8 inch touch screen for additional input)	
WORKING STATION FOR 2nd SORTING **(option)**	• Reinforced 23.8-inch touch screen • Reinforced touch screen support • Fixed barcode reader (1st sorting) • Handheld barcode reader (RFID read/write option)	

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MTP-TRI (TT)

MTP-TRI, SEMI-AUTOMATED SORTING MACHINE FOR END-OF-LIFE TRUCK TYRES

MTP-TRI (TT) is a sorting machine for used truck tyres that facilitates and automates the identification, separation, and routing of tyres to the right valorization outflow.

Based on artificial intelligence, vision measurement, and configured according to your sorting criteria, the machine identifies tyres and helps the sorting operator direct them to the convenient outflow.

Tyres enter one by one in the machine at an industrial speed rate of 1 tyre every 20 seconds. The MTP machine recognizes the different information present on tyre sidewalls and tread wear.

The MTP machine recognizes and measures :

- Brands
- Profiles
- Dimensions
- Weight (+/- 50g)
- Remaining Tread wear (+/-0.1mm)
- DOT
- Load and speed indexes

Depending on the information read and the configuration of the sorting lists, the machine sort automatically tyres to the customer's dedicated applications (automatic sorting, physical control, shearography, etc...).

MTP-TRI (TT) of retreader.
Application : retreading Truck tyres.

MTP-TRI (TT) of retreader.
Application : retreading Truck tyres.

MACHINE CHARACTERISTICS

Speed rate : 1 tyre every 20 seconds

180 tyres per shift hour

Machine's accuracy rates :
- 90% brand recognition
- 90% modele recognition
- 90% dimensions recognition
- 99% wear measure accuracy
- 99% accuracy on machine's autonomous decision-making

Unitary identification of tyre

Can be operated by 1 person or more

TECHNICAL REQUIREMENTS

- Truck tyres
- Rubber tyres Ø1.000 mini, Ø1.380 max
- Evenly distributed load
- Clean 5°C indoor environment, 40°C max.
- Solid and stable surface
- Neutral electric power supply 380V, 30A, 3 phases
- Network connection
- Dry tyres are preferable to have the full recognition potential of the machine

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MTP-TRI (TT)

ELEMENTS	COMPOSITION & DESCRIPTION	IMAGES & PICTURES
MTP ACQUISITION BOX TT	• Intelligent acquisition camera • Electrical cabinet • Siemens automation cabinet • Communication socket • Computer / server cabinet • Specific LED lighting • Control screen(keyboard/mouse)	
BAR CODE READER **(option)**	• Read bar code on side wall • Link to your sytem	
TECHNOLOGIC IMPLEMENTATION		
AUTOMATIC DISTRIBUTION DOOR **(option)**	• Door programming • Connection to button boxes or touch screens (Only with Interroll / ITOH / SEW equipment)	
BUFFER ZONE **(option)**	• Programming of MTP upstream and downstream buffer zones (Only with Interroll / ITOH / SEW equipment)	

According to your activity, it is possible to link the MTP-TRI (TT) to a shearography machine to combine the identification displayed by the machine with a physical internal control of the tyre.
After that control it is possible to automatize the routing of tyres to the corresponding outflow or to continue with a linear process and bring the tyre to the next retreading step.

IMPORTANT

AI capabilities depend directly on the reading direction and cleanliness of the tyre and the camera environment. Measurements and reading rates will be validated with the customer on delivery.

This machine is not a shearography, it does not check and control the physical condition of the tyre. This is a R&D work in process.

The MTP machine and sorting tables are CE certified. The customer is responsible for ensuring the safety of the entire line.

REGOM

SOFTWARE
(LV + TT)

In order to be able to manage the production and your activities, we developed a suite of software to complete our offer
To always be up to date, we permanently update our software, common IA base and information systems.
We can also connect the machine to your existing software (via Web service/ FTP /etc..) depending on compatibility.

INITIAL T.R.I.

TRI Initial is a relay between the mechanical part of the machine and the calculation and analyzes made by the algorithms. It is where the exchanges of information are made between the automatism and the Artificial intelligence.

It is possible to configure the deep machine through TRI Initial to meet specific needs.

DATA ACQUISITION - AI ANALYSIS - SORTER DISPLAYS - AUTO CALIBRATION - AUTOMATISM

ADMIN T.R.I.

Follow your activity and configure the software according to your specificities.
Set your mechanical outflows according to the tyres' final destinations and your sorting rules according to your activities.
Manage containers and organize the work of operators.
Get separated abstracts of your activities according to destinations, weight, sales, etc...

CONFIGURATION - SETTINGS - PRODUCTION - DESTINATION RULES - ADMINISTRATION

REPORTING T.R.I.

Follow your activities, the functioning of your machine as well as indicators about your production.
Know about your productivity and the one of your operators.
Track your tyres and their destinations and adjust the sorting according to your business opportunities.

Get all of your reporting indicators in one application, follow from your electronic devices, analyze and adjust your activities.

DATA - TRACEABILITY - TYRE REPARTITION - GLOBAL VISIBILITY - VISIBILITY - MANAGEMENT

STOCK T.R.I. (OPTION)

Manage your inventory on the fly for LV, Trucks, Agricultural or Heavy tyres with tablet interfaces and facilitate automatic pairing.

Tracking process in option (RFID, tags...) and commercial identification.

Storage according to emplacement and stock management for simplified online selling.

PAIRING - STORAGE - COMPLETING INFORMATION - TRACEABILITY - INVENTORY

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CHOOSE SORTING WITH REGOM

Designed and manufactured to answer the specificities of the used tyre recycling market, MTP-TRI is adjustable and configurable to fit any recycling activity. It can also be added to an existing sorting line.
We designed a machine able to run every day in tough and real conditions (humidity, dirt, cold, warm...) and capable of dealing with waste materials. We did the same for the data by backing up the data 5 times in case of electrical shutdown.

ADJUST THE MANAGEMENT OF YOUR ACTIVITY AND BRING PROCESS

Depending on your activities, you can choose the specific elements you want to analyze. You'll be in possession of all the data relating to these elements, so you'll be able to better direct the tyres to the relevant outflow, monitor your activities and the resources you process.
Switch from manual sorting to semi-automatized identification.
Implement a linear process that could also automatically feed a shredder, shearography, or granulator.

SECURE WORKFORCE AND GAIN IN PRODUCTIVITY

- Reduce the difficulty of sorting operations, human handling, and heavy loads while saving administration and management time
- Better attractiveness for qualified personnel
- Facilitate operator training with suggested automotive tyre orientation
- Increase recovery rate, better scanning of the tyres, more human control time (if reuse process)
- Approximately 30% fewer tyres to check (according to sorting rules)

SIMPLIFY SORTING

- Easier tyre sorting operations
- Simple to use, quick, and easy configuration system
- Sort per categories to meet your client's demands and your activities (brand, dimensions, clients, quality....)

TAKE ONE STEP AHEAD THROUGH AI AND SMART SORTING

- Switch to Industry 4.0 with laser measurement and A.I. analysis.
- Individual identification of tyres
- Reliable data on wear, quality, and remaining potential
- Smart sorting according to wear rate

ANALYZE YOUR PRODUCTION, TRACK TYRES AND COLLECT DATA

- Monitor your production
- Track each tyre individually (source of the tyre, destination, identity, time of sorting, storage...)
- Pair tyres thanks to the database
- Create batches and sorting lists for specific client orders
- Follow productivity, KPIs
- Real-time data feedback
- Connect with current software and share data

DEVELOPMENT AND ACCESS TO NEW MARKETS

- Calibrated solution for the needs of retreaders, sorters, and granulators
- Sorting according to tyre characteristics and quality for new uses and specific requests (carbon black, granulation, retreading, etc.)
- Smart routing based on selection criteria configured
- Access to precise data for the development of innovation leads (RFID, ecodesign, carbon black, etc.)

IMPORTANT

AI capabilities depend directly on the reading direction and cleanliness of the tyre and the camera environment. Measurements and reading rates will be validated with the customer on delivery.

REGOM's machines are not shearographies, ithey do not check and control the physical condition of the tyre. This is a R&D work in process.

The MTP machines and sorting tables are CE certified. The customer is responsible for ensuring the safety of the entire line.
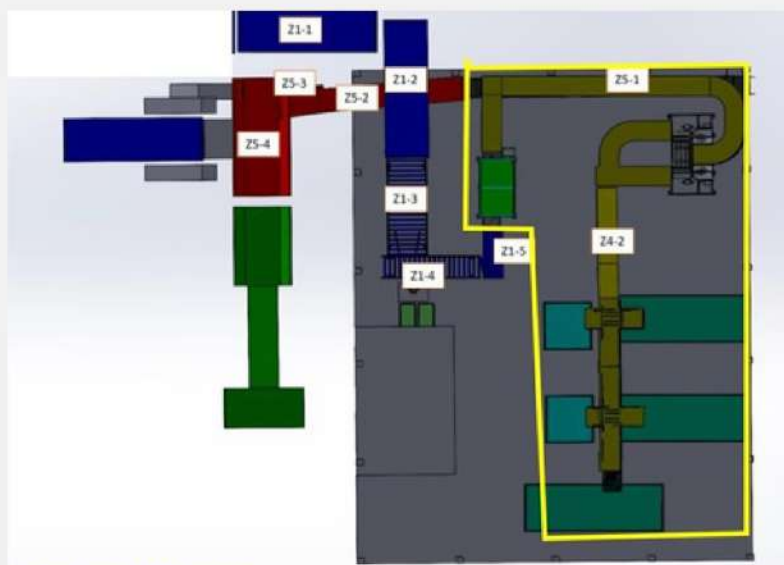

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ENGINEERING

FIELD STUDY, PROCESS AND IMPLEMENTATION

We want to help you get the best recycling process possible, that is why we are sharing with you our expertise in term of sorting, linear processes, transport, and logistics.

More than clients, we are looking for partners, your success is our success. That is why, the first step of our work at REGOM is for us to understand your activities, current processes, and needs. We will also show you previous installations that we installed and explain to you the features of our offers that could correspond to your needs. Our goal is to work with you in the elaboration of a sorting line that will fit your current needs and your potential evolutions to help you make your business thrive.
In addition to a deep analyze of your needs, we'll accompany you during the installation and connection of the line as well as the training on its usage and the follow-up. The maintenance and updates of the machine is also included in our work so you can always count on us!

Sorting line of LV retreader.
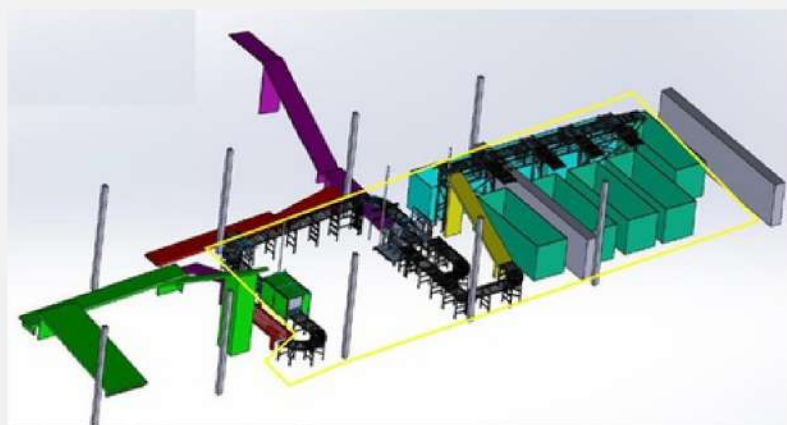Application : retreading.

INFRASTRUCTURE

The performance of calculation systems is of no use without the industrial environment necessary for their proper functioning.
The machine must be able to process 1 tre every 3 seconds. To do this, a huge work needs to be done on conveying to correctly feed the machine.

At REGOM, we will provide you with the technical specification requirements to reach the full capacity of the machine. We will work with your local partners to build the most effective solution.

SPECIFIC DEVELOPMENTS

Because every company is unique and different, we will adjust and configure our offers to your specific needs and process. That is why a good analyse is more than necessary.

Sorting line of collector and reseller.
Application : reuse, resell, shredding.

Sorting line of light vehicle and truck tyres granulator.
Application : material recovery.

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APPLICATIONS

We designed our offers to answer the different needs of tyre recycling businesses, in this context our machines and the software that we developed can be adapted to diverse applications.

REUSE - RESELLING

Increase sorting productivity
Develop new offers to final clients
Bring traceability to sorting and reselling process
Easily create a database for pairing and stock management
Refine pricing and sorting
Answer to legislation in term of export traceability of products

RETREADING

Bring traceability for follow-up production
Select tyres with low tread to be retreaded
Select specific tyres based on brands, models, and dimensions
Adapt production to market needs
Get access to a pool of qualified tyres for retreading by collectors
Pre-fill information and track the original tyre ID before retreading process

MATERIAL RECOVERY

Select specific brands and models for specific chemical applications
Know the entrant mixes of tyres to answer market regulations
Identify tyres by brands and models for applications involving products in contact with skin
Answer the increase of strict standards (HAP, microplastics....) with a precise selection of tyres
Certify the selection of tyres entering the granulation process

PYROLYSIS / DEVULCANIZATION

Select specific brands and models for specific chemical applications according to lists and demands
Know the intrant mix of tyres to control the quality of the exit output
Identify your mix of tyre to be able to know the chemical components of your intrant mix

REGOM

CUSTOMER TESTIMONIALS

"FOR EFFICIENT RECYCLING, WE NEED EFFICIENT SORTING".

Granulator

"BY SORTING TYRES, WE CAN MATCH GOOD RECYCLING AND RECOVERY RESULTS".

Material recovery recycler

"WE ARE NOW ABLE TO RESPOND TO SPECIFIC REQUESTS FROM NEW CUSTOMERS, AS WE CAN EASILY SORT TYRES AND CREATE SPECIFIC LISTS".

Sorter of reusable tyres

"INCREASING THE ECONOMIC AND ENVIRONMENTAL VALUE OF TYRES AND THE PRODUCTS MADE FROM THEM".

Retreader

REGOM

AT REGOM, WE DESIGN INNOVATIVE, ADAPTABLE AND
FLEXIBLE SOLUTIONS FOR SORTING END-OF-LIFE TYRES.

WANT TO KNOW MORE ABOUT US ?

GO VISIT OUR WEBSITE
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