

Electric waste management solution with Microsoft Dynamics AX and SharePoint



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With Matricia, based on Microsoft Dynamics AX and the web portal on MVC technology, we have implemented the first system for waste management available on the market.

Virginia Petrea, Project Manager

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The Customer

“Asociația Română pentru Reciclare - RoRec” (www.rorec.ro) is a not-for-profit organization, founded by ten of the best known European manufacturers of household appliances, presently acting in Romania. RoRec actually takes over the responsibility of household appliances producers and carries out all activities required for collection, treatment, re-use, recycling, and recovery of waste of electric and electronic equipment, and also securing the sound disposal and safety of the environment, as per EU legislation in this field.

At present, RoRec Association has contracts with over 240 producers and importers of electric equipment, including the association’s founding members.

The principle of this business is to improve the waste recycling activity by ultimately capitalizing on the "green tax" accompanying the selling of new household appliances (the visible fee, until recently). RoRec invoices the green tax directly to producers and importers, which further include it in their cost of operation, and thus recover it from the end users that ultimately buy household appliances in retail stores.

This amount is being used by RoRec to support the Association’s activities that include:

- Taking over the producers’ responsibility for the management of waste electrical and electronic equipment, on the basis of a contract;
- Organising the WEEE transfer to the recovery and recycling sites, aiming to fulfil the performance indicators set by the European legislation currently in force;
- Identifying and applying the most environmentally and economically efficient and sustainable solutions for the WEEE management processes (treatment, recovery, recycling, environmentally safe disposal);
- Issuing and sending the periodical reports regarding the WEEE management activities to the environment authorities, in

Challenge

RoRec needs to properly manage and control information from various sources and channels, parallel business flows (waste circulation and cash), finance and accounting evidence, as well as the joint activities of retailers, collection and recycling sites, as well as shipment companies.

Benefits

- Standardized process, reduced paperwork
- More efficient analysis, control and management of operational information
- Smooth operational flows, Better decision making
- Prevention of human error, fraud and delays
- Reduced losses, Cost efficiency
- Better resource and time allocation
- Future business development, flexibility

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compliance with the legislation in force, on behalf of those producers which have responsibility transfer contracts;

- Running consumer information and awareness raising campaigns about WEEE management.

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With Microsoft Dynamics AX we can now collect and process all financial-accounting, inventory, clients and suppliers information in a centralized manner and also get essential reports on key issues such units collected, and stock under treatment with recyclers.

Virginia Petrea, Project Manager

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Business Situation

The RoRec Association’s activities are financially supported through the contribution paid by the consumers for the costs of collection, treatment and environmentally secure disposal of electrical and electronic waste. This contribution takes the form of a visible fee, commonly known as the green tax.

This fee finances the costs of recycling electrical and electronic equipment that is discarded, either because it is broken or outdated. The fees, established according to the different cost factors for equipment recycling, actually secure the revenues needed for financing the full process starting with the disposal of old equipment which has now become waste.

By paying this sum, in a transparent way, each of us contributes directly to environment protection, to the recovery of useful parts of old appliances and the creation of an efficient system of waste disposal and neutralization. In this process, RoRec manages the waste circulation flows, as well as the activities of all parties involved: retailer, collection center, either owned or third parties, the recycling sites and shipment and transportation companies.

Waste collection from the individual customer to the retailer/collection center, the transfer of waste to a collection or recycling site, waste outputs from the recycling factories, input of recycled materials and eventually sale of recycled materials for recovery, are the key phases of the process which impacts operational activities, as well as finance and accounting registrations.

The whole flow is governed by the rules of the WEEE-Forum, the European association of collective schemes owned by the industry, as well as by the Romanian and European law in waste management.

The Challenge

RoRec was facing the challenge of managing various information from different sources (retailers – around 1100 outlets, shipment and transportation companies, collection sites, recycling sites), on various supports (paper, electronic) and via different means (fax, e-mail), which made it difficult to centralize and consolidate.

As RoRec is issuing and sending the periodical reports regarding the WEEE management activities to the environment authorities, in compliance with the legislation in force, on behalf of those producers who have responsibility transfer contracts, it needed real time information regarding the waste inventory existing in different locations (retailer outlet, collection, recycling sites) and partners needed a proper means of transmitting this information.

RoRec needed better management of expenses with shipment and transportation companies, collection and recycling sites.

The large number of people involved in the process needed a joined workplace they could access easily and consistently.

The recycling activity is expected to increase significantly so there was need for a solid support of future workflows.

The Solution

Considering the specifics of this business, Matricia Solutions was chosen by RoRec to implement a solution consisting of the **Microsoft Dynamics AX 2009 ERP system** and a **Web Portal for Waste Management** based on the **Microsoft MVC** technology, system that was designed from scratch together with the client as the first implemented system for waste management available on the market.

The bidirectional integration between Microsoft Dynamics AX and the RoRec Web Portal for waste management allows transferring the information properly between the two systems.

Microsoft Dynamics AX responded to RoRec's need to **collect and process all financial-accounting, inventory, clients and suppliers information** in a centralized manner, allowing:

- View of an unlimited number of warehouses and do transactions

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The Web Portal for Waste Management addresses third parties in such a way that all collection sites, retailers outlets and recycling sites can now access it, input the necessary information and transfer it to the AX 2009 system in an easy and consistent manner.

Virginia Petrea, Project Manager

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in the name of third parties without Internet access;

- Introduction of invoices issued to producers and received from third parties (shipment and transportation companies, collection and recycling sites, etc.);
- Management of all needed accounting data (cash, bank, salaries, fixed assets, etc.).

AX 2009 also included an important **reporting** segment which covered two main areas:

- individual or cumulated reports on each or all warehouses from retailers outlets, collection sites, recycling sites, etc.,
- Voucher reports.

The SQL database behind AX 2009 was partly replicated in terms of inventory management in the SQL database of the **RoRec Web Portal for Waste Management**. The creation of a separate but similarly structured database behind the portal prevents the risks related to the direct input of information by third parties into the company's ERP system, but at the same time allows the rapid and smooth transfer of information between the two using a daily replication mechanism.

The **RoRec Web Portal for Waste Management** is meant for the convenient use of collection sites, retailer outlets and recycling sites so they could access it, input the necessary information and transfer it to RoRec's system (AX 2009) in an easy and consistent manner.

The **RoRec Web Portal for Waste Management** allows:

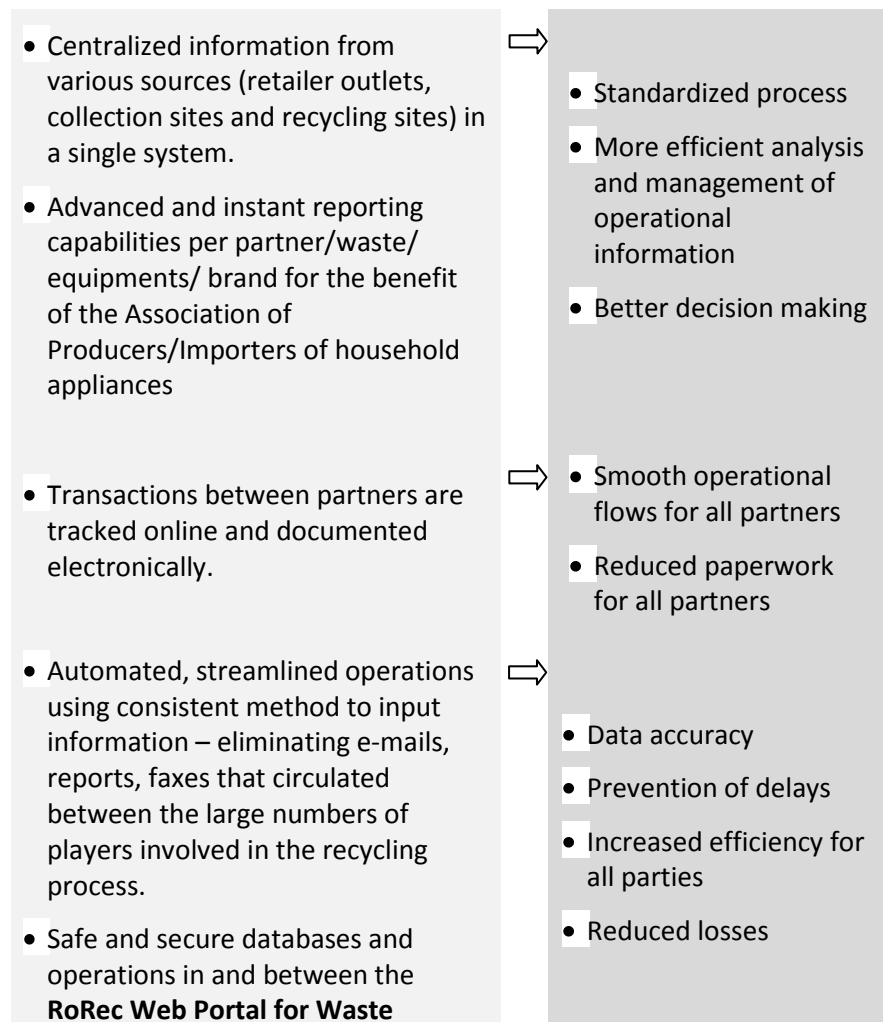
- Various transactions with waste units between various warehouses (retailer outlets, collection sites, shipment and transportation companies, recyclers, etc.)
- Issuing of all legal required documents for transport: Goods Reception Note, Delivery Note, Goods Consumed Note, Anexa2 and Anexa3
- Module that calculates the transport value based on the distance and the number of warehouses visited – allows RoRec to better manage the costs related to transportation of waste between locations
- Issuing of all legal required documents for reporting to state authorities: Anexa 42a, Anexa42b, Anexa42c, Anexa42d

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- Transfer of all data and transactions to AX 2009 every 24 hours.
- Customization of interfaces and access rights so that users have access only to their warehouses.

Benefits

Matricia Solutions customized the application to meet RoRec’s need to efficiently manage a business flow with various channels, multiple partners and information coming from several sources. In real terms, the solution responds to all users’ needs so many of these benefits are also shared by RoRec’s partners.



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Management and AX 2009.

- Full waste traceability from the moment the customer brings it to the retailer outlet, down to the moment of recycling. ⇒
 - Clear, up-to-date and instant view of the whole waste management process, including waste by brand and type, warehouse information in every location, transportation loading, etc. ⇒
 - The system was built to support an increased volume of activity and business process changes ⇒
- Reduced transportation costs (one of the key components of the recycling process)
 - Better resource and time allocation
 - Cost efficiency
 - Future business development, flexibility, scalability

For More Information

For more information about the Microsoft Dynamics AX solution and other solutions provided by Matricia Solutions, please access www.matricia.ro or get in touch with us at office@matricia.ro or +40 21 2326232.