



# NYPRO

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Nypro Healthcare, a Jabil company, is a global leader in medical device development and manufacturing services to the worlds' primary healthcare and pharmaceutical companies in the Americas, Europe and Asia.

Located in Bray, Nypro Healthcare is the European Centre of Excellence for Nypro for the development of medical devices including delivery of proof of concept, initial prototyping, clinical trial support, validation leading to full manufacturing of medical devices for global markets. Nypro uses state of the art injection moulding processes and integrated complex automated assembly lines within cleanroom manufacturing environments. Our customers include the world's leading pharmaceutical and healthcare companies.



## Nypro Case Study

### Abstract

Old habits are hard to break. And one of the hardest of all to break is the traditional linear “take, make, dispose” model of manufacturing.

This despite all the warnings on climate change and the dangers to our planet from billions of tonnes of messy industrial waste being expensively discarded; despite the millions of manpower hours being wasted on flawed industrial practices; and all that time and effort wasted on gathering information that is already dead by the time it reaches a company’s environmental health and safety (EHS) officer’s Excel spreadsheet.

The bottom line is the busy industrialist, big or small, thinks only in terms of profit and loss. Turning green? Too much trouble and not enough money in it.

This is what this case study is about: we will demonstrate how a major plastics producer broke with the old manufacturing model and bought into the **circular economy** model, a regenerative production system in which

resource input and waste, emission, and energy leakage are minimised — and increased their profits in doing so.

This is what the Eiravato software platform achieved with Nypro Ireland, a subsidiary of the major US contract manufacturers for medical devices, and how they did it.

### And the key to it all? Data.

Easily accessible, quantifiable, verifiable LIVE data gathered in one place that put the company in the driving seat when it came to dealing with industrial waste. Instantly analysable data that turned the problem of dealing with industrial waste into a solution, into a money-making opportunity.

Vital information that enabled the company to deal with industrial waste immediately, on site, thus greatly reducing their space footprint.

Data, correctly used, which transformed a stand-alone company into one link in a viable circular economy loop of **Waste Producer, Recycling Company** and **Re-Manufacturer**.



We will see how the ground-breaking SaaS software information platform developed by Eiravato played a central role in

transforming the production cycle in a major company and drove up profits while they did it.

It also further established Eiravato as a serious player in the green economy.

When Eiravato started to work with Nypro Ireland, we immediately identified major issues regarding waste practices at the plant:

- Excessive volumes of industrial waste generated.
- Excessive costs resulting
- An overcrowded designated space appointed for waste management
- Poor quality data to hand

An initial key concern was tracing plastic/device production waste materials leaving the plant, as reporting from existing providers was weak and inconsistent. There was also I.P. protection compliance issues to be addressed, tackling management fears that the company's identifiable materials would end up where they should not.



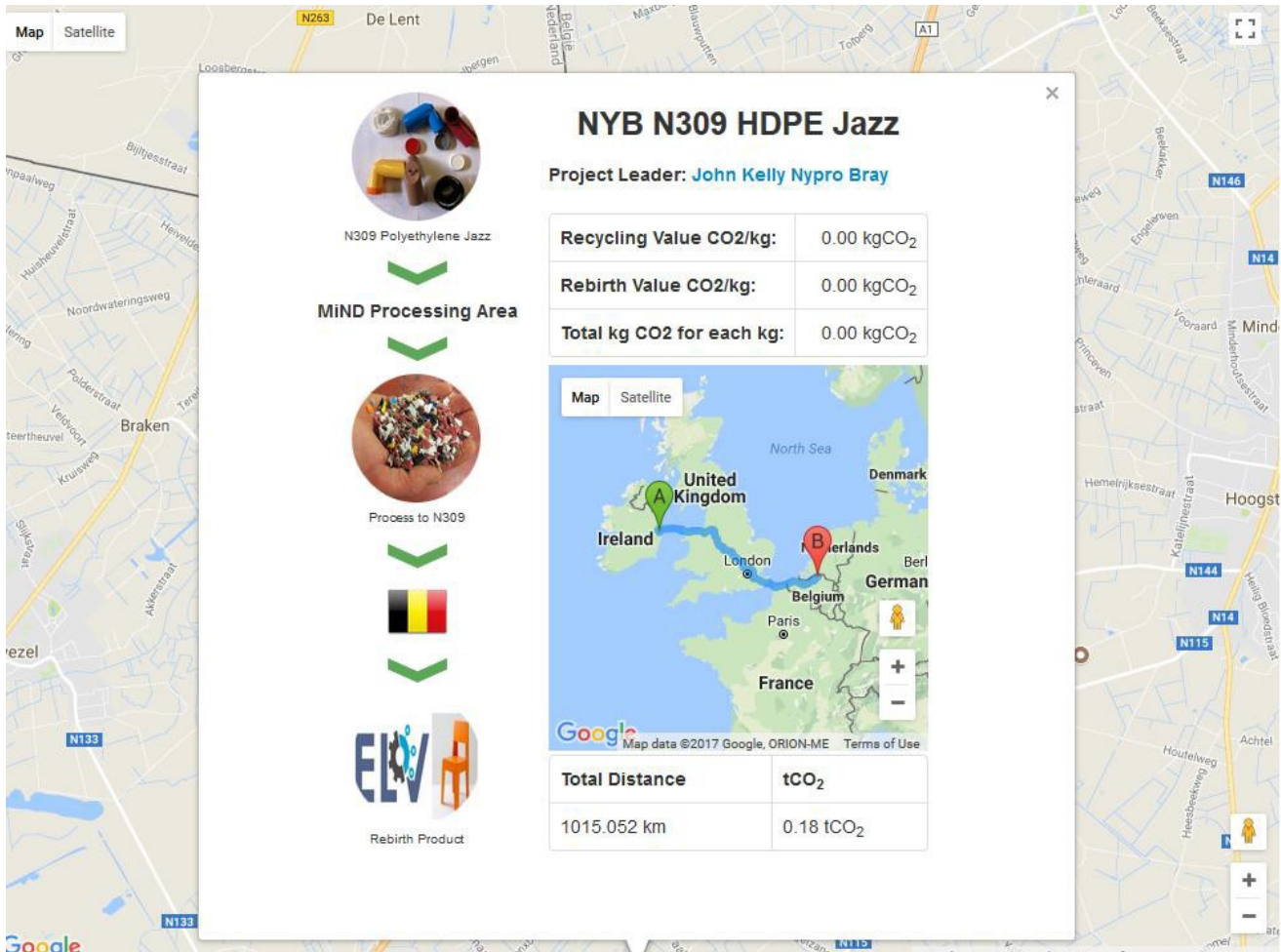
Initially, the company was paying over €1,000 a month on extracting plastic materials from site, and loading them onto lorries, with an average load weight of 4 tonnes.

An early issue for Nypro had been the difficulties they encountered chasing waste providers for information, trying to gather data from multiple locations, with multiple reports in multiple formats, with some sources more compliant than others. This data was late, inconsistent and the content often debatable. Questions arose:

- Where are my materials going?
- What is happening to my materials?
- How can I validate the providers reports and charges?
- How can I be sure that what I am being charged is correct?

Gathering waste data was thus a laborious process, as the Environmental Manager struggled to condense information on to (generally Excel) reports for monthly meetings and auditing events.

The accuracy of this data was also a concern, as it was hard for him to take control of this information. Even when it was accurate, this data was 'flat', with no meaningful benefit to advance new strategies, for sustainability. And it was costing Nypro an estimated €15,000 per annum.



The company needed to be able to gather data more efficiently and by doing so, make data meaningful as a “call to action” to deliver an advanced waste strategy.

Eiravato had to first deliver a data platform for gathering “hard” waste data that also met with compliance and auditing standards.

Environmental Manager facilitated this by introducing an IoT sensors on site at Nypro Ireland. This had put the client back in control, as materials leaving site were validated.

Eiravato easy to use, automated platform provided environmental health and safety professionals with the tools to support regulator requirements, ST monitors, facilitating the tracking and recording of environmental data.

The portals Eiravato provided in fact exceeded the compliance and auditing standards Nypro were seeking.

The Eiravato system offered:

**Enhanced I.T. Compliance:**

Nypro Ireland now had asophisticated data platform for gathering “hard” waste data.

**Volume Statistics:**

The system provided material charts, graphs to support validated data for materials leaving the site. Valid data was captured LIVE for the first time.

The client could now meet the demand of monthly meetings or audits with ease. But most importantly, the data was factual.

**Auditwise:**

The company now had a central portal for the storage of all critical documentation, including waste, energy, health and safety etc, available immediately. Auditwise has an in-built 60 day early warning to advise as to documents that are about to expire or require review.

**Waste Certificates of Destruction:**

Strengthening compliance, Eiravato linked reports to the provision of Certificates of Destruction as derived from the waste provider, now validated data. COD's enhanced future events, such as internal or external audits.

**Waste Transfer:**

Linking reports and certs at a single click, locations could now present a definitive record of waste extraction from site to final destination. The journey was tracked via Geo-Mapping visuals, records KMs or Miles, as well as contributing transport Co2 calculations for programmes such as "End of Life Vehicle Certification".

Internal or external authorities such as auditors, could view each extraction supported with key documentation and available at one central point.

The software delivered multiple positive effects, including the fact that since 75% of materials leaving site were validated, instead of chasing providers for data, the company now had live, meaningful data. Data that could be reused to capture other metrics such as transport CO2 impact. This data, also automated, also saved significant personnel hours.

Armed with this kind of information, the EHS manager was in a much better position to deliver a new waste strategy to his organisation.

To put it simply, without this kind of live data, even a major go-ahead manufacturing company such as Nypro did not know how to deliver improvements. If EHS departments did not know how to deliver, how could corporate HQ possibly roll out cross organisational strategies for improvement?

"They can't", was the conclusion Steve Cassidy and Marcin Kulik of Eiravato came to.

Eiravato has devised a new lean waste (to circular economy) mechanism. The critical elements were to create an understanding of materials arising at source but also to educate as to the demands at the end of the process (remanufacturing).

**The key issues identified:**

- Excessive volumes of waste.
- High waste management cost.
- Large physical space required to manage waste.
- Poor quality data.
- No traceability of materials leaving the plant.
- Questionable regulatory compliance.

**Proposed solution:**

- Software platform delivering transparency.
- Using big data to analyse and identify cost sources.
- Utilise software tools to discover lean opportunities.
- Engage with the company to establish lean framework.
- Implement "Continuous Improvement" plan.
- Provide fully traceable, compliant solutions.