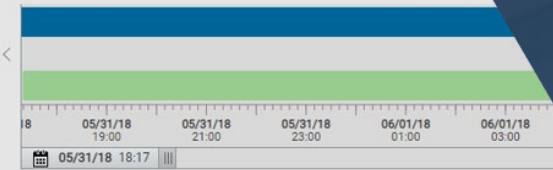


1830 DAP > OF18C005248 > PRODUCTIVE **A**



OVERVIEW QUALITY LAYERS MATERIAL NOTES

A 180601 1322

Roll
S325

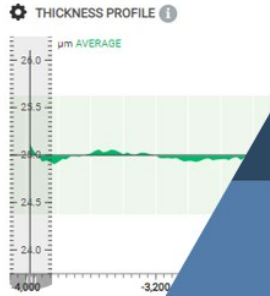
Product

QUALITY **A**

THICKNESS
25.00 μm Set
24.99 μm Average

TREATMENT
Corona Inside
None Outside

8,200 mm Width
52,151 m Length
9,612 kg Weight



ArtSoft
consult

The Art of Software Development

Developing web-based applications to support and optimize production

Key Information



Industry:

Manufacturing



Project duration:

10 years (Ongoing)



Team Size:

10 specialists



Technologies:

- Java, Angular, Spring, MongoDB, HTML, CSS, OPC-UA



Services:

- IT consulting
- Software architecture
- Software development
- Back-end and front-end software development
- Application design
- User testing
- Regression testing
- Automated testing

Highlights

- The software systems are built to assist the client to startup and operate a production line.
- The production line utilizes plastic granules as input to manufacture plastic film with diverse properties.
- Continuous monitoring of film production and quality is crucial to ensure consistent high-quality output and avoid financial losses for the final customer.
- Access to historical production data is essential for **optimizing production processes**, identifying faults, and setting parameters to ensure uninterrupted operation and **high-quality output**.
- The client requested a web application data visualization, process optimization, and tracking **key performance indicators** (KPIs) to enhance **productivity and efficiency**.
- We have worked with the client now on more than **20 projects** in the last 10 years.

Product Overview

The production line is using as input plastic granulate and is producing plastic film with various properties (e.g.: color, elasticity, vapor permeability, sealable) for various applicabilities (packing, battery production, electronics) in various industries (food, auto, etc).

For the final customer, it is important to have continuous good quality production to avoid financial losses. This is obtained by continuously monitoring the film production and the quality of the produced film.

To be sure that the final product has the highest quality it is important to have access to historical production data and to associate relevant KPIs with the current settings. In case of defects that need to be eliminated, it is crucial to share information with engineers in a very fast, easy, and intuitive way.

Requirements

The machine needs to be productive to serve the final client's purposes. To do that, the process engineers need to look at the production data to analyze the machine faults, optimize and plan the production.

Our client asked to develop a web-based application by which to:

- visualize the production and machine data
- optimize the production by setting the machine parameters
- visualize KPIs

Challenges

There were multiple factors that influenced the development effort significantly:

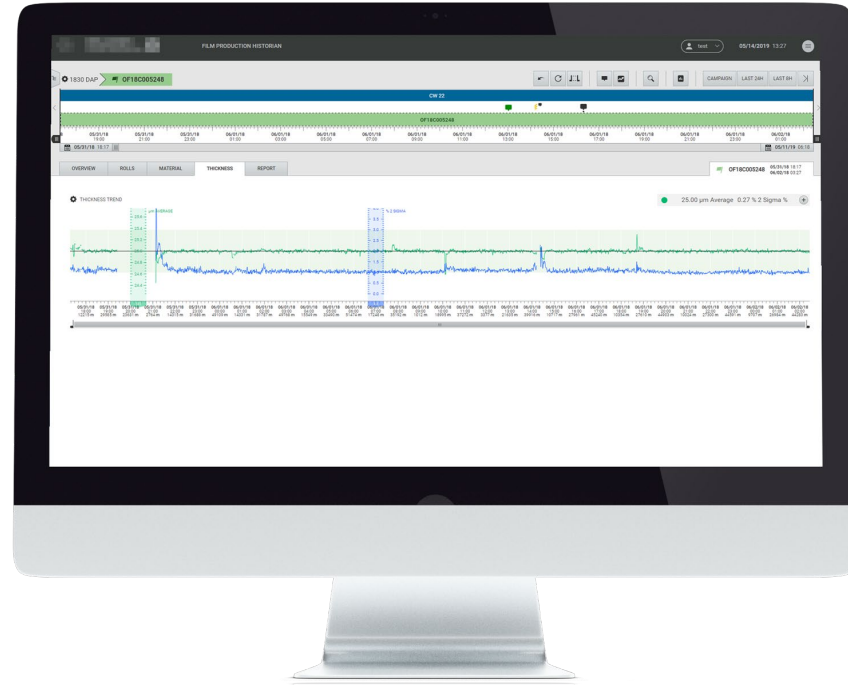
- the specific business rules of the domain
- integration with the automation software
- delivery and support model
- the number of the delivered lines
- interaction with the other departments of the customer
- customization for special lines
- strategy changes

Challenges

The development approaches changed from standalone applications to integrated architecture with specific versions of external libraries to be used.

A significant challenge was managing a big volume of machine parameter data that reflects every change occurring within the machine.

Using business specific processing transforms large time series data into human readable presentation in assisting decision making.



Provided Solutions

The new functionality proposed by our team helped increase usability and customer satisfaction. The development of new features involves actively our team members in all the phases of the development, starting with business, usability, and technical analysis.

The ArtSoft team was involved in the following stages:

- developing concepts together with the final customer
- back-end development in Java & Delphi
- front-end development in HTML 5, CSS 3, Angular 7, and Web Components
- user testing, integration testing, and automated testing

The key product functionalities that are team developed were:

- **aggregating data** – get data from various sources to make it available for the customer
- **tailor response** - allow the customer to specify the information important for client needs when interacting with the system
- **analytics** - aggregations and visualizations for various KPIs as support for decision making
- **support for production** - support the infrastructure needed to define and control the production process

The ArtSoft Consult team is involved in the monitoring and maintenance of the active live installations. Our team is part of the research and development department of the client implementing Industry 4.0 concepts.

“ Client Words

“We are collaborating with ArtSoft Consult since early 2014. It was always a very successful partnership and we consider the employees from ArtSoft Consult as our colleagues in daily work.

Currently, we have a complete Scrum team (Product Owner, Scrum Master, Software Engineers) in Cluj. Those specialists are highly motivated, very creative, experienced, and well-trained. Most of them work with us for a long time now. They are an important part of our software development.

The regular meetings with the ArtSoft Consult management are very open and honest, which helped us a lot to find together solutions to the challenges that appeared over time.”

- Head of Software Department



Let's get in touch

ArtSoft Consult is a trusted partner in the IT industry, providing tailored solutions to address your unique business challenges.

With our proven expertise our team delivers innovative solutions and development services.

Drawing from years of experience and industry insights, we deeply understand this industry and we look forward to working with your business.

For more details on our services and team, please [contact us](#).



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