Hyma-Tech Research Mould

INTRODUCTION

We are the HyMa-Tech Research Mould Team, a passionate group of students from HAN University of Applied Sciences. Working on behalf of the HAN Automotive Engineering program, we teamed up with our client, Didier Polling, and our partner company, SPC , to tackle an exciting and meaningful challenge.

Our diverse team brought together unique strengths and perspectives. Together with our Senior Engineer Nick den Uijl we set out on a mission that not only tested our technical skills but aligned with our values: sustainable innovation with a real-world impact.

The core of our project was to develop a 2D and a 2.5D test mould from recyclable materials. Our goal wasn't just to make a mould it was to create a process that ensures material homogeneity, consistency, and replicability. We were thrilled by the opportunity to research with materials like polypropylene and glass fiber-reinforced polypropylene. The chance to explore how recyclables can be reimagined for advanced applications truly energized us.

JOURNEY & LEARNINGS

From the very beginning, this journey pushed us far outside our comfort zones. The initial phase was overwhelming steep learning curves, unfamiliar processes, and countless unknowns. But as we dove deeper, our confidence grew. We encountered setbacks that tested our resilience, including a major hiccup in developing the right release agent for our mould, and unexpected behaviour during simulations.

Every week brought a new surprise, but we adapted quickly. Through open communication, high-risk decisions, and constant dialogue with our partners, we kept the project alive and moving forward. Weekly meetings became our rhythm, helping us reflect, align, and tackle each new challenge head-on.

One of the biggest lessons we learned was to stay grounded. Overcomplicating tasks slowed us down once we simplified our approach and organized ourselves better, everything started to flow. The real breakthrough wasn't just technical it was realizing the power of good teamwork. We built a strong, creative dynamic where the best ideas surfaced naturally. Looking back, we weren't just solving a problem. We were becoming engineers who think smarter, act boldly, and work better together.

OUTCOME & IMPACT

What we created was more than a prototype, it was a statement. Our final result is a functional 2D and 2.5D mould, developed using recyclable PP and PPGF plates, backed by solid data and thoughtful design. It's a system that not only meets the standards of modern manufacturing but also challenges them to be more sustainable.

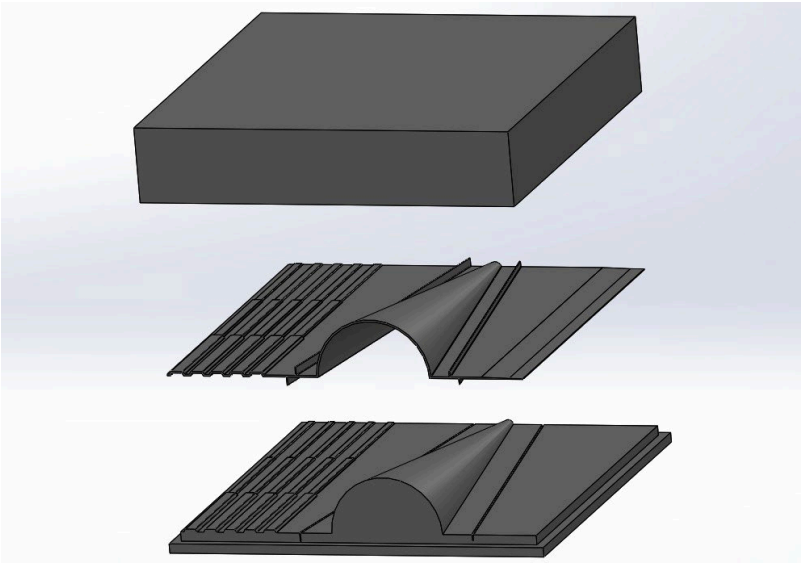
This project showed that innovation doesn't always mean expensive materials or futuristic tech. Sometimes, it's about making the most of what we already have and rethinking how we use it. The value lies in the process, in the potential to apply this solution to new markets, especially for spare part production and low-volume series where cost and sustainability are key.

It's a meaningful contribution to our partner's future research, and more broadly, to an industry that's searching for greener, smarter paths forward. We like to believe this project helps both the planet and the people on it, a small but tangible step toward cleaner manufacturing.

LOOKING AHEAD

What we're most proud of is our mould itself not just as an object, but as a symbol of what we achieved together. It reflects months of effort, learning, and collaboration. At the symposium, we're excited to show how a group of students took recycled material and transformed it into something practical, precise, and full of possibility.

It's more than just a project it's a story of teamwork, growth, and meaningful innovation. We can't wait to share it.

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