

**2025
2026**

**ISSUE
3**



 MaChTazine
Materials Science &
Chemical Technology



**Coming
soon**

**17/02
MMI**

Welcome to the MaChT Family

Hey everyone!

With deadlines, presentations, and exams coming up, it's the perfect moment to take a breath! Luckily, the 3rd Machtazine is here to help you enjoy a well-deserved break.



In this edition, we dive into everything related to internships & Erasmus, packed with tips, insights, and personal stories from fellow students to help you decide if these adventures are right for you.

You'll also find a special *blok* section to help you survive the exam season! So sit back, relax, and get inspired as you flip through the pages.

And don't forget to **follow us on Instagram** to stay up to date with everything MaChT has planned!

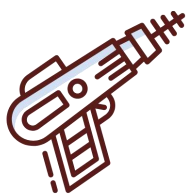
On the agenda



**Macht
Meets
Industry**

17/02/2026

Curious to learn more about our sponsors and what they have to offer? Join us at **Macht meets the Industry**, where we'll raise a glass to new beginnings and a year full of exciting opportunities while getting to know them better.



**Laser-
shooting**

TBA

Join us for the lasershooting where lasers blaze through the darkness as MaChT in the dark comes alive.



**Cocktail
Night**

01/04/2026

Cocktail o'clock! Shake up your evening and join us at Delta for our annual cocktail night, filled with signature

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A Sparkling End to a Beautiful Semester

As the holidays start to sparkle and exam season sneaks closer, caffeine becomes a key resource, summaries multiply like polymers, and the Christmas break turns into a balancing act of studying, snacking, and pretending your planning still makes sense.

Before we all disappear into our study caves, let's take a quick look back at the past semester! We kicked off the year with our barbecue, sharpened our bowling skills, refueled with fresh spaghetti, and ended the semester with a cozy ice-skating session and hot chocolate. We can't wait to welcome you again next semester — plenty of fun activities are already lined up! (Curious? Check the previous page ;))

And remember:

“Pressure doesn't break you — it shapes you. Even graphite becomes a diamond.”

Stay calm, breathe, and trust the work you've already done. Let the warmth of the holidays flow into your study sessions — you're stronger than you think.

Merry Christmas & a sparkly New Year!

Your MaChT board

Astrid Notebaert, Florian Herremans, Marie Dewulf, Jenti Van Mol, Jona Goossens, Alex Zirung Dong, Jan Mylemans, Felix Vuijlsteke, Zeno Coppens, Thorben Kestelyn, Camille Castelain, Yara Wollaert, Maurane Van Eetvelde, Floor Claes, Arthur Vandenameele & Morgane Vanhee



Your Gateway to the Future

On **17 February 2026**, MaChT brings together Chemical Engineering and Materials Science students with leading companies in the sector. During this compact job fair, industry partners briefly introduce themselves and offer insights into internships, thesis topics, and career opportunities. It's a unique chance to speak directly with professionals, discover what different companies are working on, and get a feel for where you might fit in.

A perfect moment to build your network, ask questions, and explore possibilities that could shape your future.

Don't miss out, your next opportunity might be waiting here!



WE ARE PLEASED TO INVITE YOU

MACHT meets the INDUSTRY

FEBRUARY | 17 | 18:30

Agora (Campus Coupure)
Coupure links 653, 9000 Gent

Pasta Night rewind: a delicious throwback

The Macht PastaNight once again was once again a delicious success this semester ! Between the clinking of forks, the joyful chaos, and the unexpected Fret-beker, the night quickly turned into one of those classic Macht moments we won't soon forget.

If you couldn't make it, no worries, next semester we've got plenty more-great activities coming your way!



From the Intern's Desk

Are you actively searching for an internship? Or are you still unsure whether an internship is something for you? This is for you! Here, we like to share the experiences MaChT members had with internships in the chemical, materials and textile industry.



RESEARCH AT THE SUSTAINABLE MATERIALS SCIENCE GROUP @ GHENT UNIVERSITY

This summer, I had the chance to do a research internship at the Sustainable Materials Science group at Ghent University. My project focused on CO₂ corrosion in pipeline steels, which means I studied how pipeline metals corrode when they are transporting captured CO₂. I mostly did tests on different steels to see if the experimental setup available at the moment (an autoclave connected to a potentiostat for electrochemical corrosion tests) is good enough to measure the corrosion. I performed open circuit potential (OCP), linear polarization resistance (LPR), and (single) frequency EIS tests.

I genuinely enjoyed this internship, not just because I got to research and learn, but also because I got to do things hands-on. Seeing the theory from class come to life was incredibly satisfying. I'm also really grateful for the trust my supervisors gave me and the welcoming atmosphere in the team. This experience didn't just confirm my interest in research, it proved that I want to do similar things in the future. I'd highly recommend an internship to anyone, especially if you want to discover what you will enjoy doing after your studies.

~Astrid Notebaert~

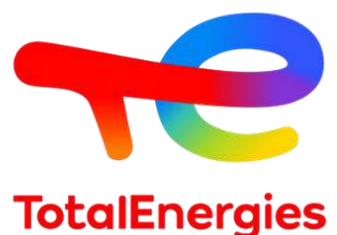
@TOTAL ENERGIES

My internship at TotalEnergies was one of the most valuable experiences in my whole education. TotalEnergies stands as one of the world's foremost multi-energy companies, actively involved in producing and marketing a wide array of energies on a global scale, from oil and biofuels to natural gas, green gases, renewables, and electricity. Their commitment to transitioning towards sustainable energy solutions makes it an incredibly dynamic and relevant place to gain professional experience.

During my six week internship within the PE&TS (Process Engineering & Technical Support) team, I was given the opportunity to contribute to diverse and challenging projects. While the main project was identifying potential cold safety issues, I also worked on heat exchanger design and even machine learning. These projects helped me build my technical skills and also showed me how even small improvements can make a big difference in sustainability. The projects aside, I also learned about the daily tasks and operations of a process engineer by attending meetings and going outside in the plant.

This internship at TotalEnergies was an invaluable learning experience. The exposure to such a variety of high-impact projects, combined with the guidance and expertise of the PE&TS team, significantly broadened my technical skills and professional understanding. At TotalEnergies, you are given a lot of freedom to work, which is encouraging to take initiative. I am immensely grateful for the opportunity, the trust placed in me, and the knowledge I gained. This internship really showed me what it is to work as a process engineer in such a big company and I would highly recommend anyone to consider doing an internship here!

~Jan Mylemans~





@TOTAL ENERGIES

This summer, I had the opportunity to do an internship at the polymer plant of TotalEnergies, TEPA, as part of the process engineering team. Ethylene coming from the steam cracker of the refinery plant TERA is upgraded in TEOA, after which it's sent to TEPA where it is converted into HDPE.

During this six-week internship, I was assigned my own project, which consisted of three main parts. First, I had to assess the project's profitability by performing an economic analysis. Then, in the design phase, I went into the field to determine where new pipelines could potentially be installed and to define their design specifications. Finally, I carried out a brief safety analysis.

My six weeks at TotalEnergies were incredibly instructive. It was the first time I could truly apply all the theoretical knowledge I've gained over the past few years. Honestly, before starting, I didn't have a clear idea of what a process engineer actually does. However, thanks to the wide variety of tasks in my project, I now have a much better understanding of what a process engineer's job involves on a daily basis.

Even more importantly, the pleasant working atmosphere and the great supervision of Matthias and Bram made it a joy to come to work every day. The six weeks truly flew by!

Because I got to experience all the different aspects of what a process engineer does, I now also have a much clearer idea of what I want to do in the future. So, to anyone still doubting whether to do an internship next summer: don't hesitate! You'll learn so many valuable things that you simply can't pick up in the classroom.



~Florian Heremans~

@BEKAERT



During this internship I learnt a lot. I immersed myself in the world of hydrogen production through PEM water electrolysis. I gained insight into how an electrolysis cell is constructed and the specific function of each component. I worked hands-on at the test stations, which required not only careful planning but also strategic thinking about the optimal sequence of tests. It's not just the final result that matters, but also the efficiency of the process leading up to it. Unnecessary or overly long tests can be costly in both time and resources. I learned to think critically about which tests are truly necessary to achieve a certain outcome, and how to interpret the results effectively.

For me, this internship was much more than just an academic experience. It was also one of my first real encounters with the professional work environment. I quickly realized that things don't always go as planned and that unexpected problems are inevitable. But that's exactly what being an engineer is about: problem-solving. It's a concept I hadn't fully appreciated before, but now I understand just how essential it is.

Collaboration with colleagues also proved to be incredibly valuable. You can spend hours trying to solve something on your own, while a short discussion with a colleague can lead to new insights almost immediately. I truly had a great time at Bekaert and felt welcome from day one. It was a highly educational and inspiring experience that enriched me not only academically, but also personally.

~Camille Castelain~

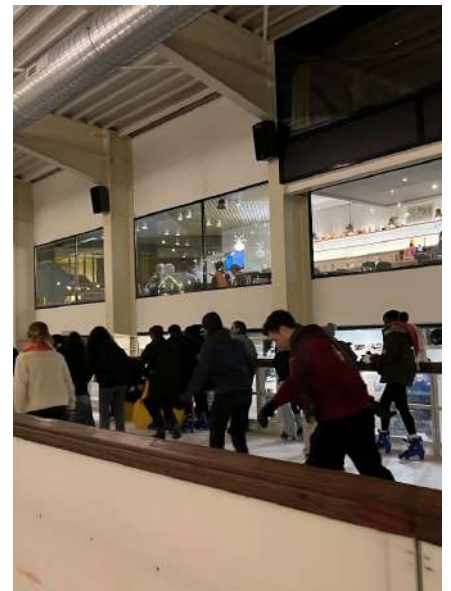


Final Glide of the Semester

To wrap up the semester, we headed out for our final activity: ice skating! It was a fun way to end these past months together, filled with laughter, slips, and memorable moments. Here are some of our highlights on the ice!



*On the ice,
even the cold feels warm
when the vibe is right*



The Christmas Table Survival Manual

Christmas dinner: the magical time of year when you eat food that's slightly questionable, and pretend Uncle Bob's jokes are funny. If you want to survive the holiday here are some tips:

1. If You Don't Know What to Say

Don't just tell that time Uncle Bob tripped over the cat. No. Say he accidentally launched the cat into orbit. Mom spilling gravy? Clearly a covert CIA operation. The goal: make everyone laugh so hard they forget to roast you in return. Bonus points if you can deliver it with a straight face, it's harder than it looks.

2. Laugh at Controversial Comments

Someone at the table will inevitably say something eyebrow-raising, maybe political, maybe about someone's dating life. Instead of getting upset, laugh (or at least chuckle). It's free entertainment. Humor spreads fast. Suddenly, the controversial remark becomes a shared joke rather than a fight.

3. Don't Panic—But Guard the Kroketten

There's always that tiny moment of panic when you see the kroketten disappearing fast. Will there be enough for everyone? Probably... but better safe than sorry.

Tip: Grab a couple first, just enough to look casual, and savor them like a holiday treasure.

4. Embrace the Chaos

Some food will spill, a joke might flop, and someone will inevitably bring up politics, but that's all part of the fun.

Tip: Celebrate the little moments of chaos, they make the meal memorable and full of laughter. Above all, enjoy being together. The mess, the jokes, the quirks, they're proof you're sharing this special time with the people who matter most.



A Sint-tacular Visit

Every year on 6 December, the beloved Saint Nicholas returns-friend to every child and a cherished figure in Belgian tradition. After his grand arrival in Antwerp a few weeks ago, where the suspense is always high as we await news of any misbehaving children, he continues his journey across the country.

Of course, our own students couldn't be left out. Saint Nicholas paid us an early visit this year, bringing along some well-deserved treats. But the real question remains... **were all our students truly well-behaved?**



Winter Course for Tomorrow's Engineers

Looking to deepen your understanding of sustainability in the chemical and life sciences industry? **The Sustainable Technological Transition winter course**, held **from 2 to 6 February 2026** in **Zebrastraat, Ghent**, offers a unique opportunity to explore the technologies and strategies driving the sector toward a climate-neutral future.

Developed by essenscia in collaboration with Ghent University, this five-day program brings together academic experts and industry leaders to provide a clear, hands-on overview of the innovations reshaping the field. From **electrification of chemical processes** and **advanced reactor and utility optimization** to **carbon management, circular economy models**, and **renewable technologies** like heat pumps and geothermy, the course offers a broad yet practical perspective on the challenges and opportunities ahead.

Throughout the week, participants dive into real industrial cases, plastic recycling, CO₂ utilization, life cycle assessment, and sustainable construction, supported by insights from companies such as BASF, ENGIE, Eastman, Lhoist, and ArcelorMittal. The combination of technical depth and industry context makes this course particularly valuable for Master students in Engineering and young professionals preparing for a career in sustainability-focused roles.

Beyond the lectures, the program encourages discussion, peer exchange, and critical thinking, essential skills for engineers who want to contribute meaningfully to the transition our industry is undergoing. And yes, coffee breaks and business lunches are included (innovation runs better on caffeine, after all).

Ready to kick-start your path toward sustainable innovation? Have questions or want to take part in this unique opportunity? Don't hesitate to contact us!



Adventures in a new city

They say great things happen when you step outside your comfort zone and Erasmus is one of them. It's more than just studying abroad. It's stepping into a world where everything is new: new friends, new surroundings, new habits, and maybe even a new version of yourself. It's a whole new life in a single semester.

For some, the idea feels intimidating, living in a different country, far from everything familiar. For others, it's the start of a long-awaited adventure. But talk to anyone who has taken the leap, and you'll hear the same thing over and over again: *"It was the best decision I ever made."* The fun moments, the challenges, the things you learn, and the small daily experiences all add up to something you remember long after you're back home.

Here are some testimonials from students who went on Erasmus, said yes to every adventure that crossed their path, and came back with stories they'll never forget.

Nor-way I missed this Erasmus

Last year, during the first semester, I went on Erasmus to Trondheim (Norway), and it truly turned out to be an unforgettable experience. All courses there are worth 7.5 credits, and I ended up taking the following four: Bioenergy: Technology and System (wouldn't recommend), Separation Technology, Reaction Kinetics and Catalysis, and Petroleum Engineering, Basic Course.



But of course, academics aren't the most important part of an Erasmus exchange. You get to meet an incredible number of new people, and you learn a lot about yourself along the way. One big advantage of Trondheim is the stunning nature surrounding the city. A 25-minute bus ride takes you straight into a

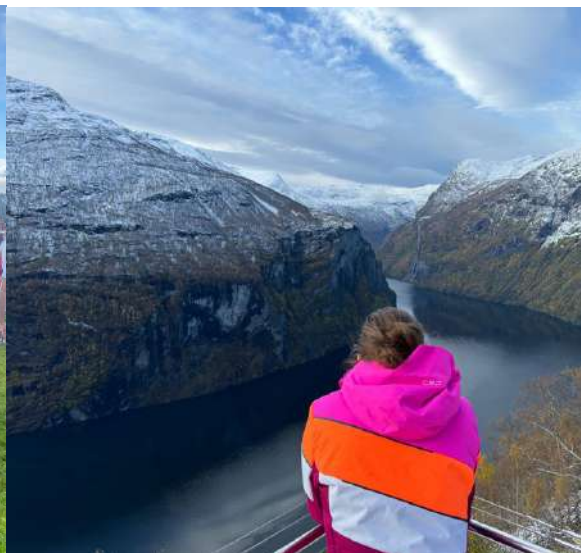


natural reserve, where you can ski or go cross-country skiing in winter. And if you're lucky, you might even catch a glimpse of the stunning Northern Lights, which really makes the whole experience feel magical. The broader region around the city also has so much to offer, with Geiranger, Oslo, Bergen and the Lofoten easily Reachable.

Thanks to NTNUI (the university's sports association), you can rent cabins in the middle of nowhere for just 5 euros per person per night, perfect for unforgettable cabin trips. For these weekend adventures, you can even rent camping gear for free, so nothing stops you from exploring the raw Norwegian wilderness.



*The city itself also has plenty to offer, both in terms of food and culture. With even an entire toga party in August, where the whole city joins into the festivities. But most of all, it's the many fun evenings with friends from all over Europe that will make your Erasmus **truly unforgettable***



Portugal through my Erasmus eyes

If you love sun, sea, surfing and beautiful nature, then Lisbon, aka Fissabon, might be the perfect destination for your Erasmus. Lisbon is an incredible city located along the Tagus river in Portugal. It's full of stunning architecture, colourful streets and charming little squares.

Unfortunately, there is also one downside: Lisbon is very very hilly. Getting from one place to another on foot can be really exhausting. Luckily, public transport is completely free if you have official residency in Lisbon and are under 23, which makes exploring the city a lot easier. Let's also not forget about the many Portuguese sweets and pastries like Pastéis de Nata and Travesseiros tempting you on every corner :)



Besides the fun part, there was sometimes studying involved. The academic system at Instituto Superior Técnico (IST) Lisboa is organised into two blocks of 7 weeks, each with different courses. After the first block, you have only 1 week to prepare for exams, which can feel a bit tight. However, the exam period only last one week, followed by a well-deserved break. Then the next 7-week block of lectures begins with a completely new set of courses. Our personal tip: try to schedule your heavier courses in the first block, so you can enjoy a more relaxed second half of the semester.



Beyond Lisbon, Portugal has so much more to offer. Think of Porto, the Algarve or beautiful islands like the Azores and Madeira. Whether you prefer beaches, mountains, culture or nightlife, Portugal has something for everyone. So in short: Erasmus in Lisbon was one the best decisions we have ever made. It was an unforgettable experience and we couldn't recommend it more! You will have the time of your life!

Making it through the Christmas blok

The holiday lights may be glowing, but for engineering students the Christmas break mainly means one thing: **bloktijd**. To help you tackle thermodynamics, transport phenomena, materials science and everything in between, here are a few concise, high-impact tips.

Find Your Flow

Build a steady rhythm instead of cramming. Switch between reading, problem-solving, and summarising key ideas. Active engagement, tackling old exams or explaining concepts, boosts understanding.

Balance Matters

Long days don't equal productive days. Short breaks, stretches, or a walk outside can refresh your mind and improve focus.

A Break That Isn't Just a Break

And when you feel your concentration fading, or you simply need a moment that isn't equations or graphs, turn to the **puzzles on the next pages**. They're the perfect way to give your brain a reset without losing the study momentum.

Simulate the exam environment

Time yourself when solving exercises and avoid looking up formulas mid-way. This builds confidence and helps you stay calm during the real exam—especially in courses where time pressure is part of the challenge.

Keep Perspective

It's easy to feel behind, but consistent effort adds up. Celebrate small wins, track your progress, and remember that preparation is cumulative. Every session brings you closer to success.

Progress happens quietly, one session at a time. Trust your preparation, take care of yourself, and keep going.

Good luck, and may your exam results be as solid as stainless steel!



Festive Fault Lines

Shake up your brain with Tectonic cheer! Each region must contain all numbers exactly once, neighboring cells can't share the same value, and every boundary follows its own natural fault lines. Let logic rumble and let the holiday spirit guide your moves!



2				1				
	5			3	2		4	3
	2			4			3	
							1	
5				4			3	
1								
	3							1
					4			
							5	
	2							

3 1 1 4 0 1 3 2 3 2

2										
1										
1										
2										
2										
1										
3										
1										
4										
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Fleet Festivities

Place ships horizontally or vertically, never touching, even diagonally. Numbers show how many ship parts per row and column. Fleet: 4 singles, 3 doubles, 2 triples, 1 battleship. Logic ahoy!

1	6	7	4	3	5	1	7	9
7	8	2	4	1	7	5	4	6
2	9	1	5	2	7	4	8	9
8	7	9	2	9	7	6	5	3
4	1	8	6	6	9	4	2	5
2	3	5	9	4	3	8	5	4
6	3	4	1	4	7	7	9	3
3	4	7	5	5	2	9	9	1
5	2	6	3	6	1	2	4	8

A Blackout Christmas

Shade squares black, but think like a Christmas engineer: no duplicate numbers in any row or column, black squares can't touch, and don't trap any part of the grid. Precision and festivity go hand in hand!



Holiday Sudoku

Fill the grid with festive focus: each row, column, and 3×3 box must contain the digits 1–9 exactly once. No duplicates, no chaos, just pure holiday logic. Let the puzzle joy begin!

1			9			6	5	
	5		7				9	
		9						3
	2			5	1			
7								
	8						3	1
	7	4		6		3		
	6					5		2
		8		2			6	

Insight Eastman



Je kan er moeilijk omheen, **Eastman** heeft de jongste jaren zijn positie zodanig versterkt dat we vandaag de grootste werkgever zijn voor de chemische industrie in de Gentse regio.

Met twee productiesites en een researchafdeling kunnen we een zeer gevarieerd aanbod aan uitdagingen en carrièremogelijkheden aanbieden aan jonge ingenieurs.

Onze productiesite Gent Noord produceert Methylamines. Dit zijn bouwstenen voor eindtoepassingen als cosmetica, detergenten, additieven voor diervoeding, gewasbescherming en afvalwaterzuivering.

De productiesite Gent Zuid is gespecialiseerd in de productie van folies die aangewend worden in gelaagd veiligheidsglas voor de automobiellindustrie en architecturale toepassingen.

In 2018 opende Eastman de deuren van een nieuwe researchafdeling in het Technologiepark te Zwijnaarde, waar we focussen op onderzoek en ontwikkeling voor Coatings, Specialty Plastics en Plasticizers.

Vandaag hebben we een team van ca. 900 collega's in Gent en jaarlijks versterken we onze rangen met aanstormend talent.

Jingle Lights Logic

Fill each empty square with a Christmas light—*on* (1) or *off* (0). No more than two of the same lights can be side by side or stacked on top of each other. Every row and column is unique and has an equal number of *on* and *off* lights. Can you light up the grid without any “grinchy” repeats?

			1						0		0
1			1								0
1								1	1		
	0						1	1			
											0
										1	
										1	
	0		1					1			
1							1	1			
									0		0
			0		1			0			
1		1			0						

Deposit this page with your answers in any **MaChT box** or send an **email to MaChT@UGent.be** before the **11th of February!**

Name: _____

Email: _____



Ingredients:

- * 240 g of all-purpose flour;
- * 1 teaspoon of baking soda;
- * 1/2 teaspoon of salt;
- * 1 tablespoon of ground ginger;
- * 1 tablespoon of cinnamon;
- * 1/4 teaspoon of cloves;
- * 227 g of unsalted butter, softened;
- * 150 g of light brown sugar;
- * 1 egg;
- * 110 ml of molasses.

Gingerbread cookies

Instructions:

1. Preheat the oven to 175°C.
2. In a bowl, mix together the flour, baking soda, salt, and spices.
3. In another bowl, beat together the butter and sugar until light and fluffy. Add the egg and molasses, beating until combined.
4. Gradually add the dry ingredients to the wet mixture, mixing until a dough forms.
5. Roll out the dough on a floured surface to about 6 mm thickness. Cut out shapes with cookie cutters.
6. Place the cookies on baking sheets and bake for 8–10 minutes, or until lightly golden.
7. Allow the cookies to cool on the baking sheet for a few minutes before transferring to a wire rack to cool completely.



Santa's Sleigh Routes

Each puzzle features a cluster of festive islands, where the number on each island shows how many bridges must connect to it. Your mission: connect all the islands so that:

- No more than two bridges run in the same direction.
- Bridges can only go straight, vertically or horizontally, and cannot cross other bridges or islands.
- Once complete, all islands are connected, creating a magical network perfect for Santa's sleigh to travel from any island to another.

		2			4		3		2		2
2				2		3		3		1	
	2		2		3		4		3		4
3		1		4		3		3		2	
	3		2		1		1		1		4
3				3		3		6		2	
			1		3		1		2		4
	3			3							
3						1		4			3
	2		2		3		1				
									1		
3		3		4		3		3			2

Deposit this page with your answers in any **MaChT box** or send an **email to MaChT@UGent.be** before the **11th of February!**

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