



2023-2024

# MaChTazine

Materials Science &  
Chemical Technology

Issue 3 **XL**

**Save the date!**

**MaChT Meets the  
Industry**

**21/02/2024**

# Introduction

As deadlines, presentations, and exams come closer, it's high time for relaxing! The 3rd Machtazine will help you to enjoy a well-deserved break!

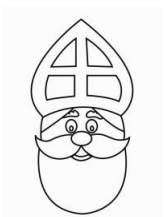
In this edition, you'll find a roundup of insights, tips, and personal stories about internships. This can help you in making the decision if you want to embark on an internship journey of your own!

Make sure to follow our Instagram to stay up to date with



@MACHT.GENT

## Upcoming events



**Sinterklaas** 6/12/23

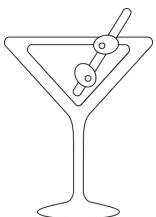
Let's hope everyone's been on their best behavior this year, as Saint Nicholas is making rounds in all the classrooms, ready to treat everyone!!



**MaChT  
Meet  
Industry** 21/2/2024

Curious to discover more about our sponsors and their offerings?

Join us at the New Year's reception, where we'll raise a glass to new beginnings and a year full of boundless opportunities while getting to know our sponsors.



**Cocktail  
Night** 27/3/2023

Join us for our yearly cocktail night at Delta, featuring signature cocktails and lively conversations!

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**PAPIER&CO**

# Next event: Sinterklaas



## SAINT NICHOLAS 6 DECEMBER

**HEY, IT'S SINTERKLAAS!**

**ON 6 DECEMBER, LISTEN FOR THE SOUND OF MYSTERIOUS FOOTSTEPS AND THE WHISPER OF SECRETS IN THE AIR. MY HELPERS AND I HAVE DECIDED TO MAKE A SPECIAL APPEARANCE IN YOUR CLASSROOM!!**

**HARD WORKERS MAY FIND A SPECIAL TREAT IN THEIR SHOES. BUT BEWARE, I KNOW WHO'S BEEN SKIPPING CLASS! STAY ON YOUR BEST BEHAVIOR AND GET READY FOR A SURPRISE IN YOUR SHOES.**

**SEE YOU SOON!**



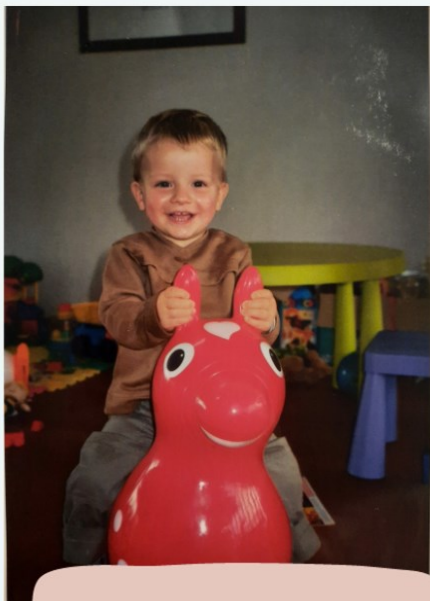
# GUESS WHO IS WHO

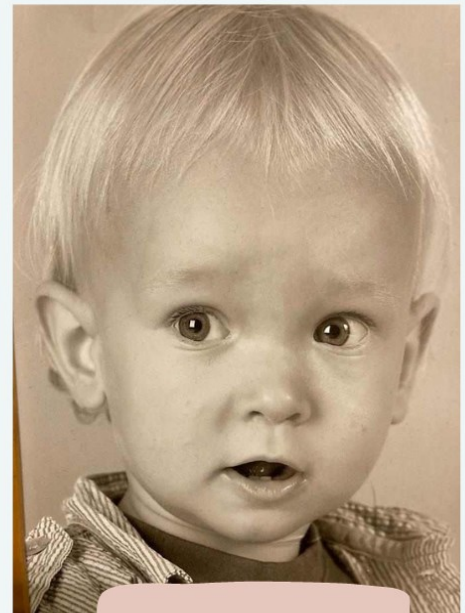
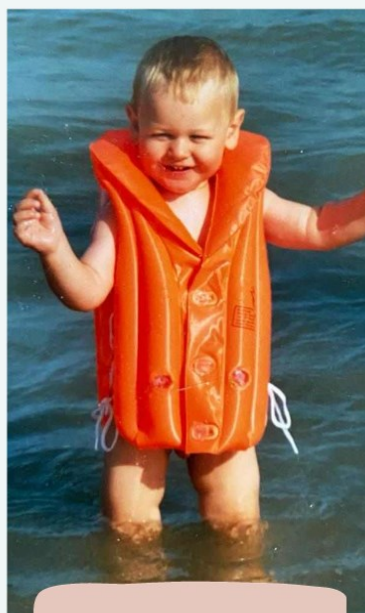
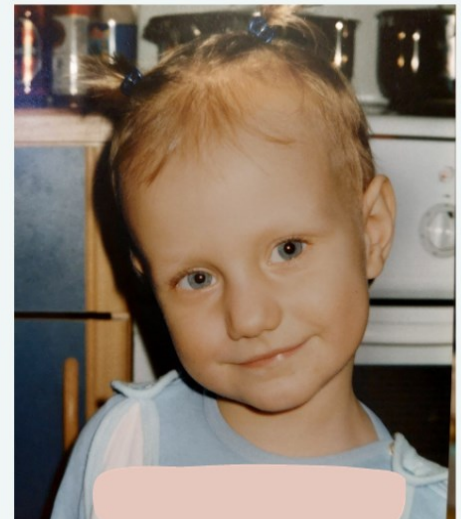
Guess the MaChT board member from their cute pics!  
Match the right pictures and score some cocktails at our  
annual cocktailnight at Delta



Send a picture of your answer to [macht@ugent.be](mailto:macht@ugent.be) or  
deposit them in one of the MaChT boxes before the 13th of  
December.

Good luck!







Thomas V



Stan



Roel



Thomas S



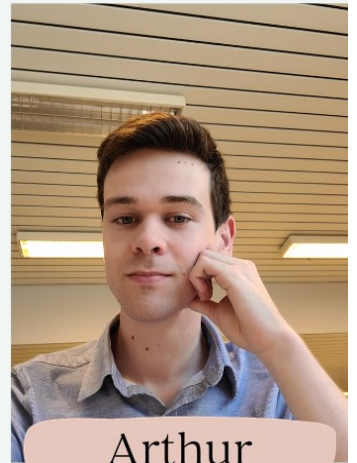
Gilles



Joanna



Estée



Arthur



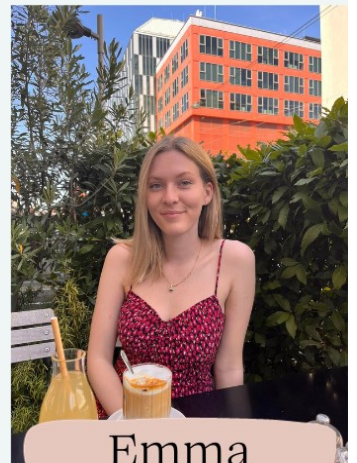
Ward



Thomas G



Mauritz



Emma



Cédric



Pauline

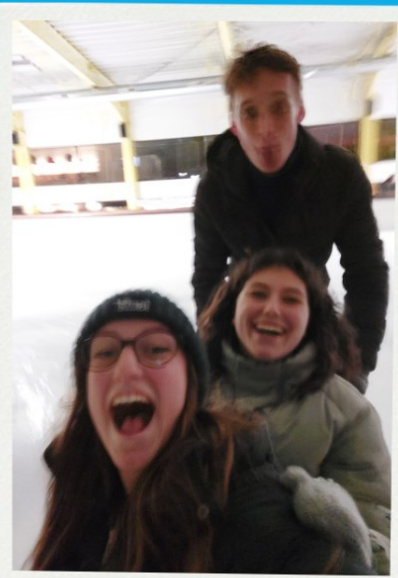
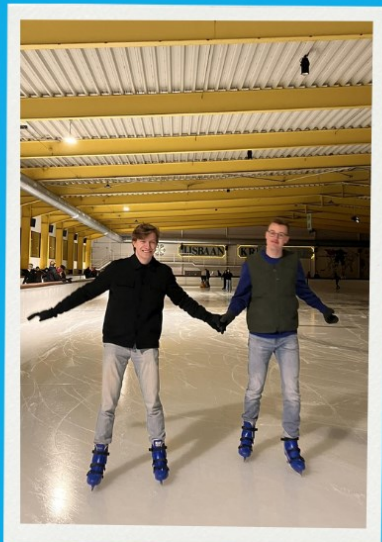
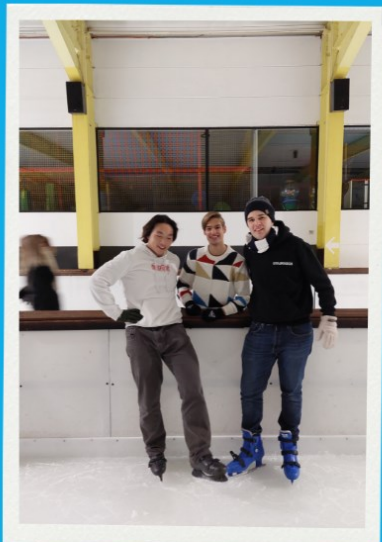


Eveline



Kaïn

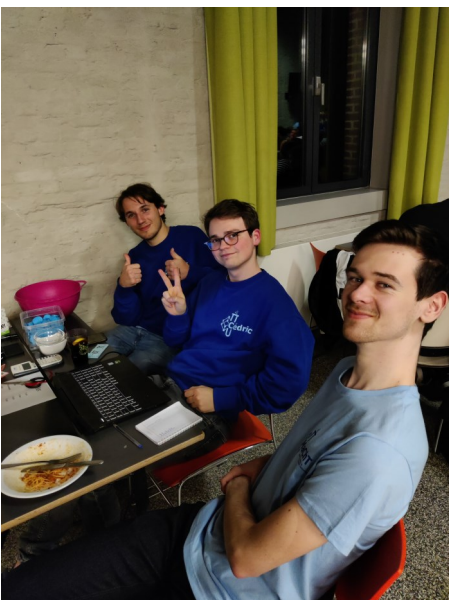
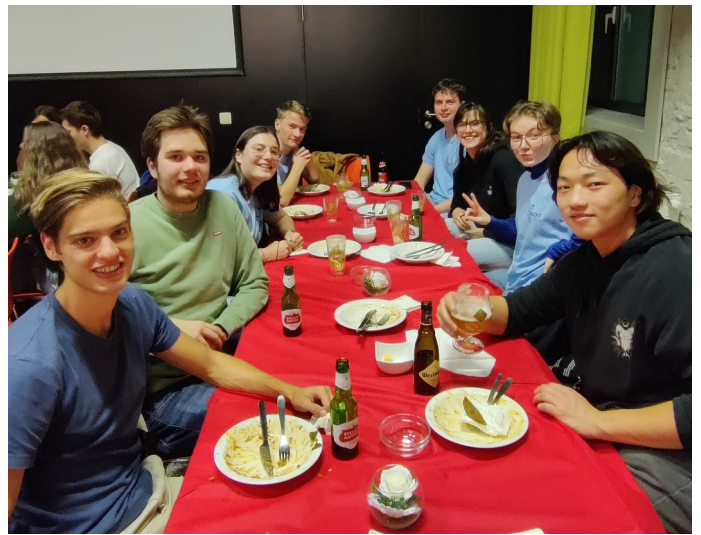
# Picture Time: MaChT on ICE



# Pasta night was a big success !!!

Huge thanks to everyone who showed up and made it a fantastic evening.

A special shoutout to our incredible volunteers !!





# Internships via UGent

Get ready, **3rd bachelor** and **1st master students**, because winter is here, and it's the perfect time to dive into the world of **summer internships**! Feeling a bit lost about the whole internship thing? No worries! The Faculty of Engineering and Architecture has got your back. They've compiled all the **essential info** on this site: <https://www.ugent.be/ea/nl/faculteit/studentenadministratie/stage>

Why consider an internship, you ask? Well, the reasons are as diverse as the opportunities themselves – whether it's **gaining international experience**, **earning some credits**, immersing yourself in the vibe of a **future workplace**, or getting **hands-on industry know-how**.

Still not convinced? Check out **testimonials** from board members on our MaChT site: <https://macht.ugent.be/internship-testimonials/>

On the next pages you can explore **internship opportunities** from our **sponsors**. Keep in mind that some sponsors unveil their internships later in the academic year.

Curious minds, save your **questions** for **MaChT Meets the Industry on 21 February** – a chance to dig deeper into internship details.

## Contact us:

If you have any questions during the year, you can always find us at the Technology campus in Zwijnaarde or send us an email to [MaChT@UGent.be](mailto:MaChT@UGent.be).



[www.macht.ugent.be](http://www.macht.ugent.be)



[MaChT@UGent.be](mailto:MaChT@UGent.be)



MaChT



[macht.gent](https://www.instagram.com/macht.gent)



Be part of our energy

Location: Antwerp, Zwijndrecht, Meerhout

## Internship Engineer - Belgium

We are more than just one of the largest energy companies in the world. ExxonMobil is a place where people think independently, take initiative, grow to their full potential and help shape the future of energy. We strongly believe that diversity drives innovation and our inclusive workplace helps everyone thrive, regardless of your background. The safety and wellbeing of our employees is at the heart of everything we do.

At our manufacturing sites in the Antwerp Area we are offering internship opportunities for graduate engineers.

As an intern you have a well-defined task and are coached by a dedicated ExxonMobil coordinator. You work in a young and dynamic environment that allows you to get a clear view on how working at ExxonMobil would look like. Each internship subject contributes to our business and gives you a 'taste' of a typical starting position with ExxonMobil. During your internship you will perform a project for one of our engineering departments and learn to work independently in a professional environment.

### Typical internship projects may be:

- Process simulation
- Safety studies
- Monitoring software
- Economic studies

**Selected candidates will have the opportunity to work with inspiring and diverse teams and join us for a 4 to 6 weeks internship during summertime.**

- university students: Msc Civil Engineering (Chemical, Materials, Mechanical, Electrical, Energy, Applied Physics) and Bioscience Engineering (Chemistry & Bioprocess Technology, Catalytic Technology), in their 3rd year Bachelor or 1st year Master
- fluency in Dutch and English

Interested about this opportunity?  
Then stay connected and apply!



**Curious about this opportunity?**  
Stay connected with us and apply

Hope to welcome you soon!



ExxonMobil Brands



## Boosting young grad energy at BASF Antwerpen

Boeiende projecten verkennen als toekomstig ingenieur? Je steentje bijdragen aan duurzaam ondernemerschap? Dan kan een stage of job bij BASF Antwerpen iets voor jou zijn.

Ontmoet ons op een van de evenementen van MaChT of check [www.werkenbijbasf.be](http://www.werkenbijbasf.be) om meer te weten te komen over opportuniteiten bij de strafste productiesite die over minder dan 10 jaar klimaatneutraal wil zijn! Deel jij onze ambitie?

INFO [rekrutering@basf.com](mailto:rekrutering@basf.com)

# Aluminium Duffel

## What is so special about aluminum?

Aluminum is strong, light, durable, flexible, extremely versatile, impermeable, corrosion resistant, an excellent conductor of electricity, non-magnetic, non-flammable, an abundant element in the earth's crust and infinitely recyclable.

Aluminum has unlimited potential to be part of solutions that move society forward.

Its freedom enables people and businesses to create a better future by innovatively using the versatility that aluminum offers.

## Your field of work

Since the innovation center is linked to the factory, there is a close collaboration between R&D and production. We can already offer you an insight into different positions where an engineer can end up in industry (R&D, quality service, technical customer support, process technology, etc.).

We can offer you interesting research topics that will help us make our products even better.

Some examples include corrosion studies coupled with electrochemical measurements, MSA analysis of certain measuring equipment, mapping of influence factors on color and gloss of anodized material, effect of method of quenching after annealing on mechanical properties, etc.

## Your duties and requirements

- Gather information, both from literature and through collaborators, usually coupled with lab tests or attending industrial trials.
- Analytical mindset and able to work systematically in a team environment.
- Good knowledge of Dutch and English.

## Analysis of the corrosion resistance of aluminium for automotive body application

Internship for student in Master level

Location: Aluminium Duffel, Duffel, Belgium

Aluminium has become over the last decades the material of choice to reduce the automotive body weight in order to reduce energy consumption or raw material usages when it comes to electric vehicles.

One aspect in the material qualification at the car manufacturer is the corrosion resistance of the aluminium panels.

After being produced, aluminium sheets are subjected to various changes when they are at the automotive production plant: stamping to get the right design of the car, sanding to remove any defects on the car surfaces... However, all these materials alterations may have influence on the material properties. Therefore, material has been collected with different production alterations and they will be investigated in order to evaluate their impacts on the corrosion resistance of the aluminium alloy.

After conducting literature review, corrosion resistance in terms of paint delamination will be investigated with various microscopy techniques. In addition, microstructural analyses will also be performed in order to study the morphology of corrosion and propose corrosion process mechanisms. Finally, SEM-EDX analysis will be conducted to analyse the top surface at various stages of the paint process (samples were collected in 'real conditions' at a car paint line) and correlate with the corrosion resistance of the material.

## Interested?

then send your CV ~~attn:~~

- **Els Verboom** (Manager R&D),  
[els.verboom@aluminiumduffel.com](mailto:els.verboom@aluminiumduffel.com)

## Aluminium Duffel B.V.

*is a European leader in manufacturing and marketing aluminum rolling products for a wide variety of markets (automotive, architectural, construction, consumer products, etc.) worldwide. It has state-of-the-art technology, including the widest cold rolling mill in the whole of Europe and a CALP (Continuous Annealing Line with Pre-Treatment) production line.*

*The Innovation Center in Duffel, Belgium, therefore focuses on segments such as the automotive and industrial sectors.*

## Stage at Ghent

**Practice is so much more fun than theory!**

Are you a student and would you too like to experience how we put theory into practice? Then sink your teeth into one of our challenging internships and become part of our team!

### Why choose our site?

1. You get the chance to work on an exciting assignment with us
2. You will be supervised by specialists in their field
3. You will experience for yourself how much fun it can be to work in an industrial environment
4. Perhaps your internship will be the start of a long career with us

**Diversity and inclusion** make us even stronger!

ArcelorMittal Belgium is committed to equal opportunities and values diversity. We select students solely on the basis of their competences. Your age, gender, ethnicity, orientation, religion, disability, nationality, etc. do not influence your chance to help build sustainable circular steel solutions for the future.

More **info** about ArcelorMittal

<http://corporate.arcelormittal.com/>

**APPLY HERE**



**Want to be  
part of the  
world of steel?**



## Yara Sluiskil

*Werkenbijyara.nl*

Knowledge grows



If you're looking for an internship that gives you the opportunity to do something really meaningful, Yara is the place for you. We work with more than 17,000 colleagues worldwide on the biggest challenges facing the food industry. Yara Sluiskil is our largest production facility in the world. In our modern factories, we make products such as high-quality fertilisers, industrial chemicals such as AdBlue that reduces pollutant emissions from diesel engines and the bubbles that give your fizzy drinks a kick. If you are interested in an internship at Yara, please contact our Learning department at [Learning\\_NL@yara.com](mailto:Learning_NL@yara.com).



# Company of the month: Umicore



**IF WE CAN BECOME  
A WORLD LEADER  
IN RECYCLING AND  
CLEAN MOBILITY  
IMAGINE  
WHAT YOU  
COULD DO?**

"Climate change  
is my main  
motivator.  
At Umicore,  
I can help solve  
this complex  
problem."

Valerie De Houwer,  
Young Graduate

## Discover our Young Graduate Program

Our two-year Young Graduate Program gives you the opportunity to learn and gain experience in various areas of our organization. This program prepares starting engineers for a clearly predefined management position in a technical field. All Technical Young Graduates are coached during a specifically designed development program, which is spread over different units and locations.

### Umicore 2030 RISE

With our 2030 RISE strategy, we are entering a new phase in our journey to become the leading circular materials technology company. We are ready and eager to play a key role in the major trends of mobility transformation, the growing need for advanced materials and the pursuit of a global circular economy.



Scan the code and apply for our  
Technical Young Graduate Program!



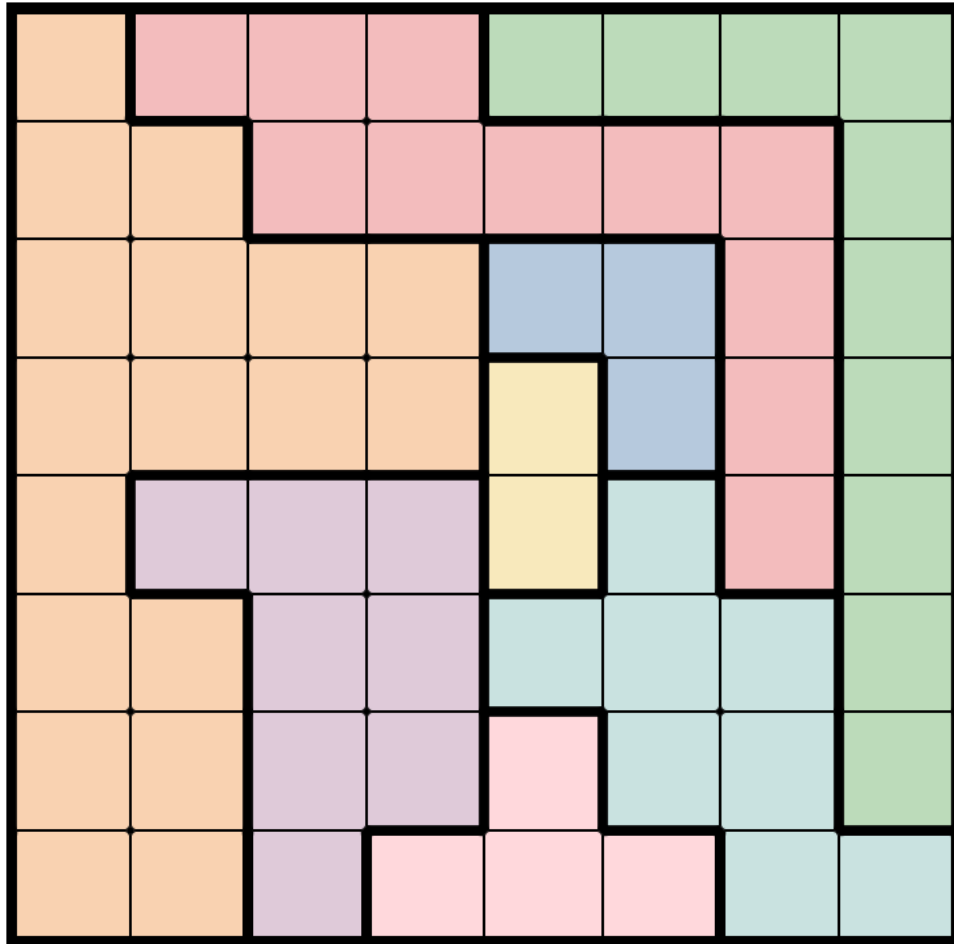
# Puzzle of the month: Umicore

**Star Battle** is a logic puzzle with simple rules and challenging solutions.

**The rules of Star Battle are simple:**

You have to place stars on the grid according to the rules:

- You have to place 1 star on each row, column and shape.
- 2 stars cannot be adjacent horizontally, vertically or diagonally.



Try to solve this puzzle and have a chance to win the awesome prize offered by Umicore!!

**Deposit** this page with your answers in one of the **MaChT boxes** or send an **e-mail** with the answer of the puzzle to **MaChT@UGent.be** before the **13th of December**.

**Good luck!**

Name: \_\_\_\_\_

Email: \_\_\_\_\_

# Company of the month: BASF



**Boosting  
young grad  
energy at BASF  
Antwerpen**

Welkom in de bruisende wereld van BASF Antwerpen, waar innovatie niet zomaar een concept is, maar een dagelijkse realiteit! Onze vestiging in België is al sinds de swingende jaren '60 een bloeiend centrum van baanbrekende ideeën en technologische hoogstandjes.

Duurzaam ondernemen en innoveren zit in ons DNA: we denken buiten de gebaande paden en durven creatief zijn. Dit niet alleen voor onszelf, maar door samen te werken met interne & externe stakeholders, door ook de volgende generatie denkers en doeners te motiveren om groots te dromen en een verschil te maken. Bij BASF willen we vorm geven aan een duurzame toekomst.

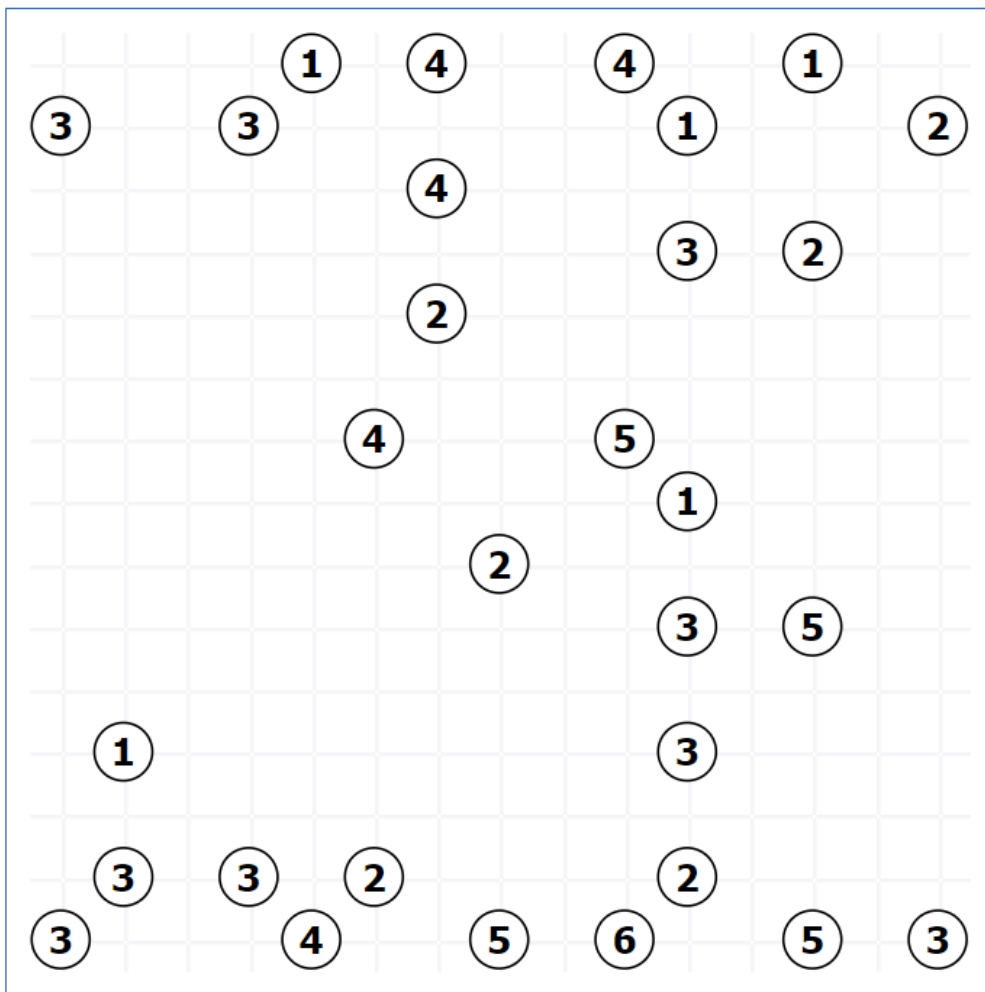
Kom kennis maken op een van de evenementen van MaChT of VTK; bezoek onze site in april tijdens een bedrijfsbezoek op maat én met overnachting; of check [www.werkenbijbasf.be](http://www.werkenbijbasf.be) om meer te weten te komen over de strafste productiesite die over minder dan 10 jaar klimaatneutraal wil zijn! Deel jij onze ambitie?

**INFO** [rekrutering@basf.com](mailto:rekrutering@basf.com)

# Puzzle of the month: BASF

**Hashi:** Each puzzle is based on a rectangular arrangement of islands where the number in each island tells how many bridges are connected to it. The object is to connect all islands according to the number of bridges so:

- There are no more than two bridges in the same direction.
- Bridges can only be vertical or horizontal and are not allowed to cross islands or other bridges.
- When completed, all bridges are interconnected enabling passage from any island to another.



Try to solve this puzzle and have a chance to win the awesome prize offered by BASF!!

**Deposit** this page with your answers in one of the **MaChT boxes** or send an **e-mail** with the answer of the puzzle to **MaChT@UGent.be** before the **13th of December**.

**Good luck!**

Name: \_\_\_\_\_

Email: \_\_\_\_\_

# Company of the month: Borealis

**We put people first**

We go beyond boundaries. Together.



## Are you ready to be part of the solution for a more circular tomorrow? We are!

Borealis is one of the world's leading providers of advanced and circular polyolefin solutions and a European market leader in base chemicals and the mechanical recycling of plastics. In re-inventing for more sustainable living, we build on our commitment to safety, our people and excellence as we accelerate the transformation to a circular economy and expand our geographical footprint.

### Borealis in numbers

1,232 employees in Belgium

6,900 employees worldwide

120+ countries served

3 mechanical recycling assets

3 production plants in Belgium

## Why join Borealis as a young graduate?

### - You will make a difference

Our sustainability ambition going forward is to create a world where there is no waste of resources, no emissions into the environment and no harm to society, while delivering prosperity for Borealis and our stakeholders.

### - You will go beyond boundaries, together with us

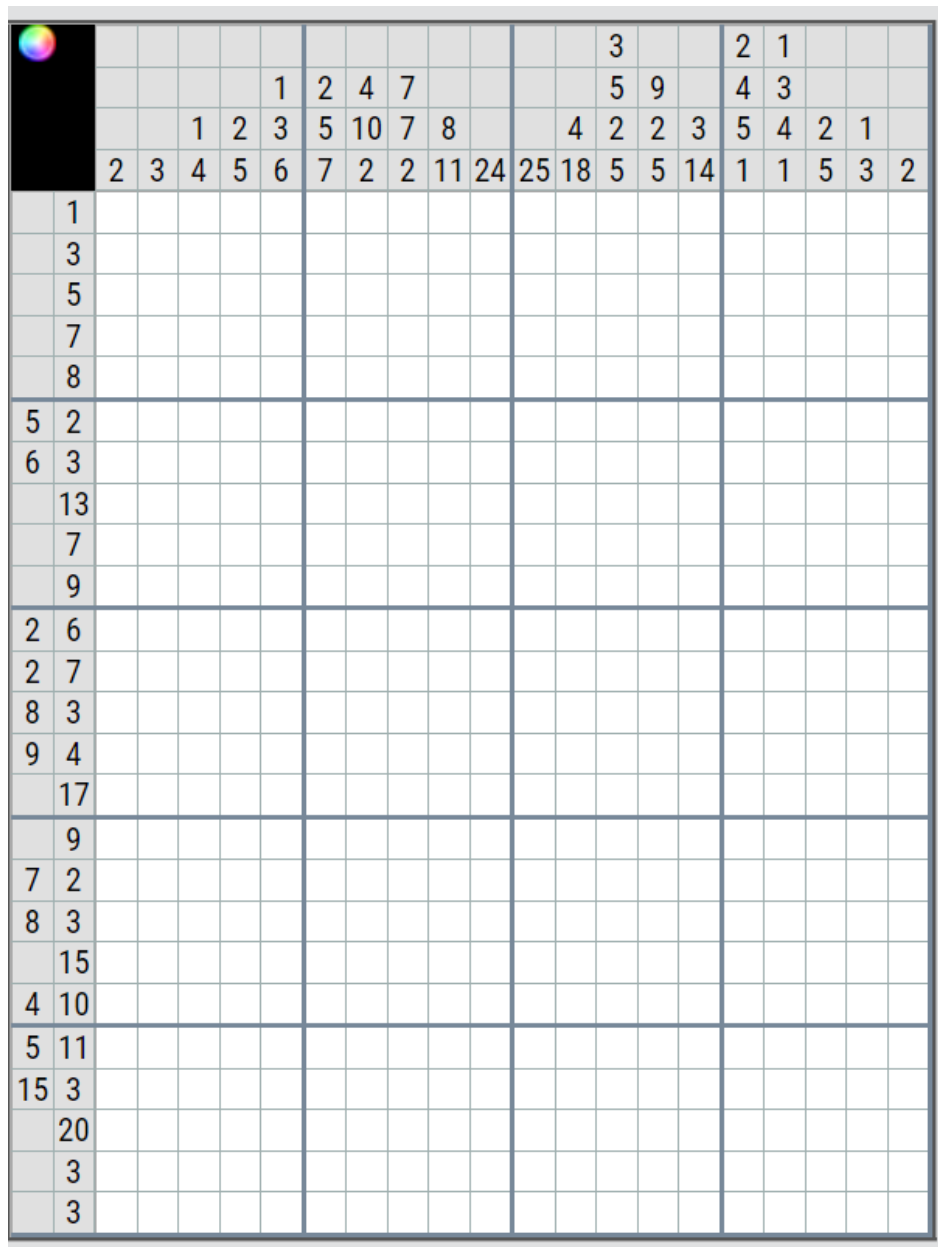
By combining formal learning with real-life assignments and mentoring, development and career progression is guaranteed. We are also expanding our activities, to offer you (international) possibilities.

**Interested to #joinBorealis?** Keep an eye on our vacancies via our career site ([careers.borealisgroup.com](https://careers.borealisgroup.com)) as of February 2024, or contact our Talent Acquisition Specialist via [karolien.Vercauteren@borealisgroup.com](mailto:karolien.Vercauteren@borealisgroup.com).



# Puzzle of the month: Borealis

**Nonogram:** The numbers outside the grid indicate the consecutive groups of filled squares in that row or column and their lengths. Use the numbers as clues to determine which squares to fill and which to leave blank. There must be at least one empty square between different groups of filled squares. Once you correctly fill in all the squares, a hidden picture or pattern will emerge.



Try to solve this puzzle and have a chance to win the awesome prize offered by Borealis!!

**Deposit** this page with your answers in one of the **MaChT boxes** or send an **e-mail** with the answer of the puzzle to [MaChT@UGent.be](mailto:MaChT@UGent.be) before the **13th of December**.

**Good luck!**

Name: \_\_\_\_\_

Email: \_\_\_\_\_

# Company of the month: 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, detergents, 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.

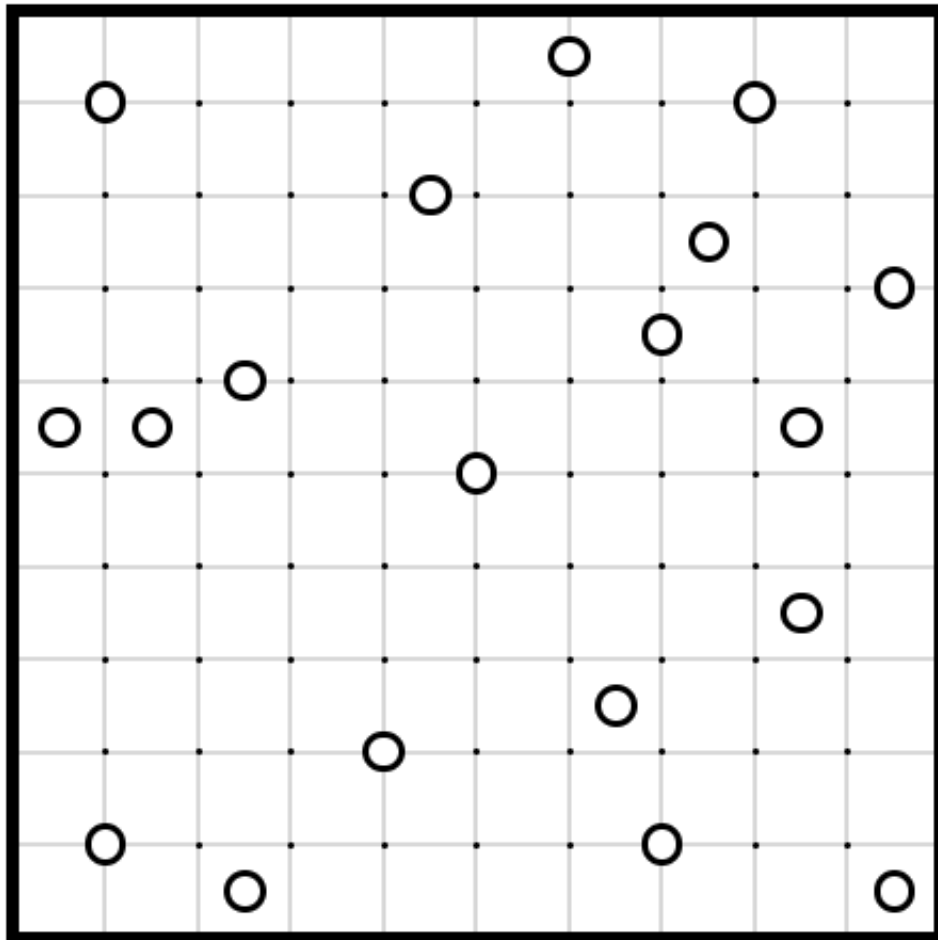
In 2018 opende Eastman de deuren van een nieuwe researchafdeling in het Technologiepark te Zwijnaarde, waar we focussen op onderzoek en ontwikkeling voor Coatings, Specialty Plastics en Plasticizers.

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

# Puzzle of the month: Eastman

**Galaxies:** You have to divide the grid into regions (galaxies) in such a way that:

- Each region has exactly 1 white circle in it.
- The circle is the center of its rotational symmetry. In other words: If you rotate the region around the circle at  $180^\circ$  you should get the same shape, position and orientation.
- A region cannot be a neighbour to itself



Try to solve this puzzle and have a chance to win the awesome prize offered by Eastman!!

**Deposit** this page with your answers in one of the **MaChT boxes** or send an **e-mail** with the answer of the puzzle to [MaChT@UGent.be](mailto:MaChT@UGent.be) before the **13th of December**.

**Good luck!**

Name: \_\_\_\_\_

Email: \_\_\_\_\_

# Sponsors:



Air Liquide



Progress beyond



ArcelorMittal

**EASTMAN**



TotalEnergies

**ExxonMobil**

**INEOS**



**BOREALIS**

Keep Discovering

