



2022-2023 Issue 7

**MaChTazine**

Materials Science &  
Chemical Technology

**Ice Cream Day  
10 May @ LCT**

# Introduction

Hey everyone!

Sadly, the end of the academic year is approaching and with it also this last issue of the MaChTazine. All good things must come to an end, but we will end in style with this 'ice cream'-themed MaChTazine. As you can see, the very last event of this year is our annual **Ice Cream Day** which takes place on the 10th of May.

The last few weeks, MaChT was busy with a lot of events like the Cocktail Night, Zwijnaardse Feesten, INEOS guest lecture, company visits, the Movie Night and a final teambuilding of the board. You can find some **pictures** of these events in this MaChTazine.

In this issue we will introduce you to the **new MaChT board**, taking over in 2023-2024. We as the current MaChT board believe they will do great things next year and wish them an amazing year!

As usual, we have prizes to win from our **Companies of the Month**. This month **Ontex, Cargill, Milliken, Prohead Engineering and Worley** are put in the spotlights. Don't forget to deposit your completed puzzles in one of our MaChT boxes for a chance to win a prize. Good luck!

We would like to thank everyone for participating and for reading our MaChTazines. It was a wonderful year and we hope that next year will be even better for MaChT!

Your MaChT Press — Arthur & Yana

Your MaChT board — Jonas, Marie, Jonathan, Marthe M., Joanna, Anne-Céline, Mattis, Marthe V., Robin, Jordy, Manon, Michiel and Nathan

## Coming events

MaChT will close up this academic year with one last event for all MaChT students to enjoy. On the **10th of May**, MaChT offers **free ice cream** just outside building 125 at Zwijnaarde.

Ice Cream Day	10 May
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# Next event



## Ice Cream Day

**What?** Free ice cream for all MaChT students (!)

**When?** May 10th, at 16h00

**Where?** Just outside the entrance of building 125  
Campus Zwijnaarde



# Top 5 Ice Cream Shops in Ghent

## Pierino

The white van with the stripes in the colours of Italy has probably already caught your eye in Ghent. The vehicles of this family-run business can be found in the centre of Ghent and at the train station. Additionally, their vans also venture to different locations outside of town, surprising you with a delicious break on your cycling trip for example. They boast homemade, real Italian ice cream and I can confirm that their pistache tastes delicious.

## Nonno

Nonno is another Italo-Gentian family-run ice cream shop, famous for freshly made ice cream on location. Expect some innovative flavours, for example ginger, and solid, full flavour. Their fruit-based ice creams are actually sorbets, made with real fruit, beetroot sugar and water. This makes them suitable for vegans and people with lactose-intolerance. Nonno can be found at 2 locations in the city centre, so if you really liked the first one, there's the next one just around the corner.

## Australian Home Made Ice Cream

This Belgian ice cream chain – I bet you thought it was really Australian! – has its shop in Ghent on the Veldstraat, which means you should avoid it on Saturday afternoons as it gets super crowded. The ice cream flavours are rich and filling, think *cuperdons* and *cookie crunch*, and there is no shortage of sweet toppings. You can also order a waffle or a milkshake, if ice cream is not your thing. But they also have a good selection of fruit-based sorbets for those who prefer lighter flavours.

## Larmuseau — Talamini

Talamini ice cream has the reputation as the best ice cream in Ghent, at least south of the Gent-Sint-Pieters train station. This year, they have joined forces with Larmuseau to offer their goods also north of the station. What I liked about their ice cream is the fresh and light flavour, which is very welcome in this heat. Since becoming part of the Larmuseau family, their ice creams can also be ordered online and delivered to your home (not as scoops, obviously).

## San Pierto

This is my personal favourite! Conveniently located between the train station and the centre of town, this small ice cream shop has a very homey feel. A nice lady behind the counter, a couple of rickety chairs and a setting sun – the perfect ingredients for an ice cream after a long hot day. My favourite flavours are the salty caramel and a real-banana-ry-tasting banana.

Source: <https://thesquare.gent/leisure/food-drink/top-5-ice-cream-shops-in-ghent/>

# AMERICA'S TOP TEN

## Favorite Ice Cream Flavors



**1. Vanilla**

**2. Chocolate**

**3. Cookies N' Cream**

**4. Mint Chocolate Chip**

**5. Chocolate Chip  
Cookie Dough**

**6. Buttered Pecan**

**7. Cookie Dough**

**8. Strawberry**

**9. Moose Tracks**

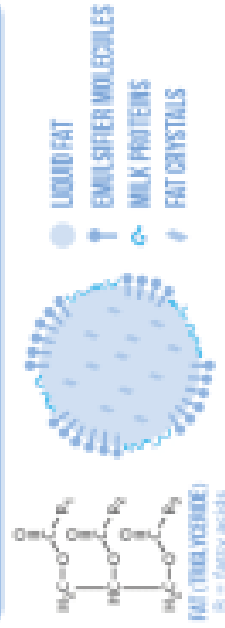
**10. Neapolitan**

Source: 2017 International Dairy Foods Association Ice Cream Survey, a national survey of ice cream makers and retailers. Conducted by Research America Inc.

# THE CHEMISTRY OF ICE CREAM

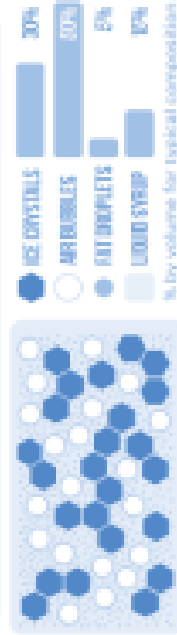
Ice cream is a combination of air, ice crystals, fat globules, and a liquid syrup. These are combined to make a colloid, a solution with very small insoluble particles suspended in it. This graphic looks in detail at the components of this colloid, and some molecules that produce ice cream flavours.

## FATS, PROTEINS &amp; EMULSIFIERS



Fats are important for the creaminess of ice cream. Proteins from milk form a membrane around the fat droplets, making it harder for them to connect with each other. Emulsifiers replace some milk protein on the surface of the fat droplet. As ice cream is made, some of the fat in the droplet solidifies, and the fat 'needles' that form help droplets to partially cluster. These clusters, along with milk proteins, help stabilize air bubbles in the ice cream.

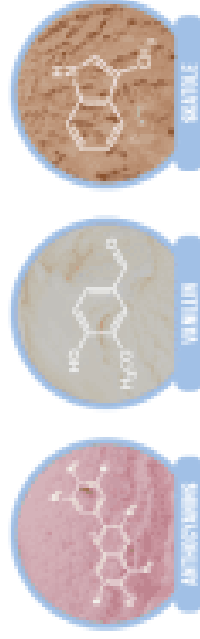
## THE STRUCTURE OF ICE CREAM



During freezing, most water is frozen into ice. Small ice crystals are needed for smooth ice cream. Beating and aeration occur at the same time as freezing to form small air bubbles, stabilized by de-aerulated fat. Air makes up 30-50% of ice cream's final volume, emulsified fat. Air makes up 30-50% of ice cream's final volume. Sugar softens the ice cream, and lowers the freezing point. Water, reducing the amount of ice soft ice cream contains less ice.

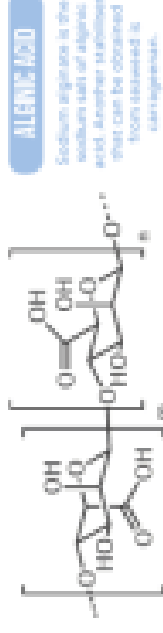


## FLAVOURS AND COLOURS



Natural ice cream flavours contain a number of flavour-contributing compounds. Flavouring can also be achieved artificially. Artificial vanilla flavouring is often simply vanillin; other artificial flavours are more complex. Other compounds can be used as flavour enhancers – an unusual example is diacetyl, also found in faeces, but which has a floral odour at lower concentrations. Colours can be added artificially, and preservatives from ants are amongst the colouring agents used.

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Stabilizers are added in small amounts (0.2%) to ice cream. Others extracted from plants, a common example is sodium alginate, the sodium salt of alginic acid, extracted from brown seaweeds. Stabilizers reduce the rate at which ice cream melts, add smoothness, and increase the viscosity of the liquid phase of ice cream. Use of multiple stabilizers can produce synergistic effects.

# MaChT board 2023 - 2024

## **President**

Joanna Popiel

## **Vice President**

Thomas Schaep

## **Treasurer**

Thomas Verbrugge

## **External Relations**

Thomas Glorieux  
Stan De Kersgieter  
Gilles Satyn  
Mauritz De Wilde

## **Allrounder**

Eveline Dioos (sem 2)

## **Internal Relations**

Estée D'huyvetter  
Roel Verhulst (sem 1)  
Kaïn Rotsaert (sem 2)

## **Trip**

Arthur Labijn  
Ward Vanderhispallie

## **Press**

Emma Caethoven  
Pauline Van Duyse

## **Webmaster**

Cédric Catry



# Picture time









# Company of the Month: Ontex



## Ontex “Where **everyone** cares”

### Beeld je in...

*Een wereld waarin iedereen toegang heeft tot betaalbare producten voor persoonlijke hygiëne. Dat is het soort wereld waaraan Ontex bouwt. Stap voor stap.*

*In de productieplant in Buggenhout werken we vol trots mee aan deze ambitie.*

### Sterker nog

*Als ingenieur kan jij je steentje bijdragen. Door het identificeren en oplossen van kwaliteitsproblemen zorgt jouw werk tot het verbeteren van het proces en productkwaliteit.*



Opgericht in  
**Buggenhout** in 1979



**Beursgenoteerd**  
(sinds 2014)



Meer dan  
**30 merken** in Retail &  
Healthcare



**19** Productiesites



10 000  
medewerkers: **600**  
in Buggenhout



Ontex, dat staat gelijk aan massa's uitdagingen in een **hoogtechnologische omgeving**. Heb jij zin om bij ons te komen werken? Daar kan ik jou geen ongelijk in geven! Klik snel op [www.werkenbijontex.be](http://www.werkenbijontex.be). #Ontex #Buggenhout #vacatures #whereeveryonecares

**Scan mij!**



Meer weten? Neem snel een kijkje op <https://www.werkenbijontex.be/> en solliciteer online.

# Puzzle Ontex

For this **word search** the words can be **horizontal, vertical and diagonal** in **both** directions! (so right-left/left-right and top-bottom / bottom-top)

N	C	H	U	L	M	P	T	O	A	T	A
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A	E	N	O	N	A	I	F	P	Y	T	D
R	C	E	N	A	L	N	U	Y	R	O	E
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Vanilla	Moose tracks	Pecan	Maple walnut	Rocky road
Chocolate	Reeses	Fudge	Coconut	Green tea
Strawberry	Triple tornado	Cookie dough	Neopolitan	banana

**Tear or cut** this page out and deposit it in one of our boxes at buildings 46, 70A or 125 or **send a picture of your solution** to **[macht@ugent.be](mailto:macht@ugent.be)** by **17 May** for a chance to win the awesome prize offered by **Ontex**! Good luck!

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

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



# Company of the Month: Cargill



Helping the world *thrive*

## Our purpose

We exist to nourish the world in a safe, responsible and sustainable way.

**155,000**  
employees

Working in  
**70**  
countries

### Agriculture

- Farm services
- Grain & oilseed trading, processing and supply chain
- Sugar
- Cotton
- Palm oil
- Animal nutrition



### Industrial

- Energy trading
- Ocean transportation
- Biodiesel & Bioethanol
- Metals & ores
- Industrial salt & starches
- Bioindustrials & renewables



Cargill provides food, agriculture, financial and industrial products, and services to the world.

Cargill has locations in, among others: Ghent, Antwerp, Izegem, Sas van Gent, Bergen op Zoom, ...

Cargill's activities in these sites include:

- Production of biodiesel & alcohol
- Production of cocoa and chocolate
- Processing of grains and oilseeds
- Production of starch, sweeteners, and texturizers
- Refining and bottling of vegetable oils and fats

### Financial

- Structured finance
- Risk management services



### Food

- Cacao & Chocolate
- Malt
- Sweeteners
- Texturizers & emulsifiers
- Refined oils
- Dressings & sauces
- Beef & poultry



Working at Cargill is an opportunity to thrive – a place to develop your career to the fullest while engaging in meaningful work that makes a positive impact around the globe. We offer a diverse, inclusive, and inspiring working environment where you will grow personally and professionally. We aim to develop top diverse university talent towards future expert and managerial roles.

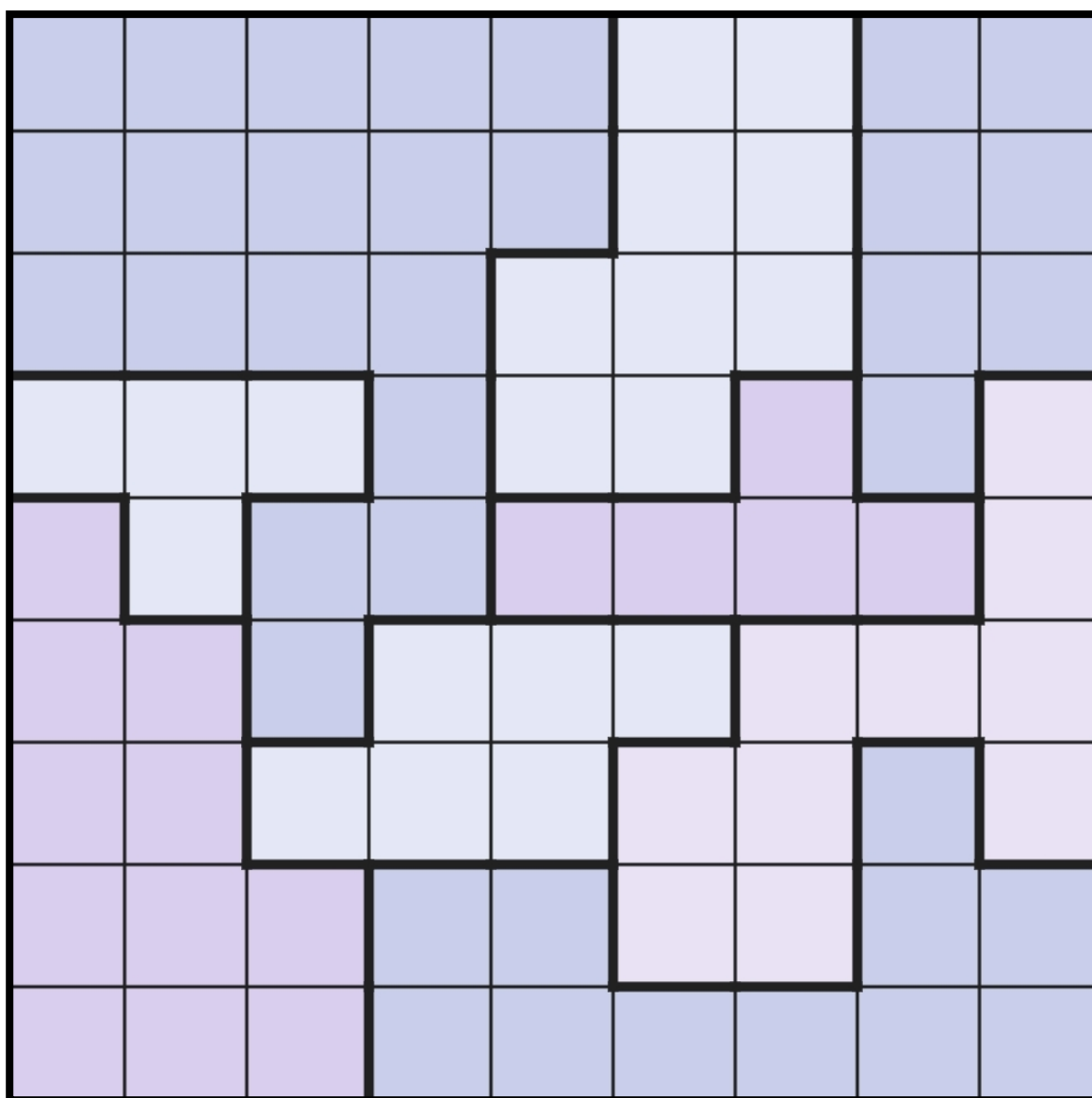
We are looking for motivated university graduates in engineering (chemical, process, mechanical, agricultural, food science) that have a strong hands-on mentality and are fluent in Dutch and English. In return for your expertise and commitment, we will provide a fast-paced stimulating international environment, which will stretch your abilities and channel your talents.

If you are interested in joining our team, please check <https://careers.cargill.com>

# Puzzle Cargill

This is called **Star battle**, the goal is to fill in 18 stars in the grid following these rules:

- Every zone, row and column needs **exactly** 2 stars
- The stars **cannot** touch, not even at the corners



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

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

# Company of the Month: Milliken



We are a curious and passionate global team based in the heart of Ghent at Ham 18 - 24. Our site houses 2 different business units of Milliken namely, Milliken Textiles and Milliken Chemicals. Our global goal is to find sustainable solutions that have a positive impact on the world.

At Milliken Chemicals we develop additives that optimize recycled plastics. We also make dyes for detergents and fabric softeners, polyurethane mattresses, toys, connectors for e-vehicles, etc. Our unique scientific expertise allows us to provide specialty silicones, dyes and other additives that directly address consumer trends in color, quality, and sustainability.

At Milliken Textiles we are producing technical textiles that are used in the production of car tyres and roofing material.

As a company, we are committed to reducing our environmental footprint and avoiding the use of harmful materials. Therefore, we continually evaluate our manufacturing practices, product life cycle and supply chain. Then we develop new technologies that ensure efficient operation.

We strongly believe that this is how we can make a difference and to take care of our planet.

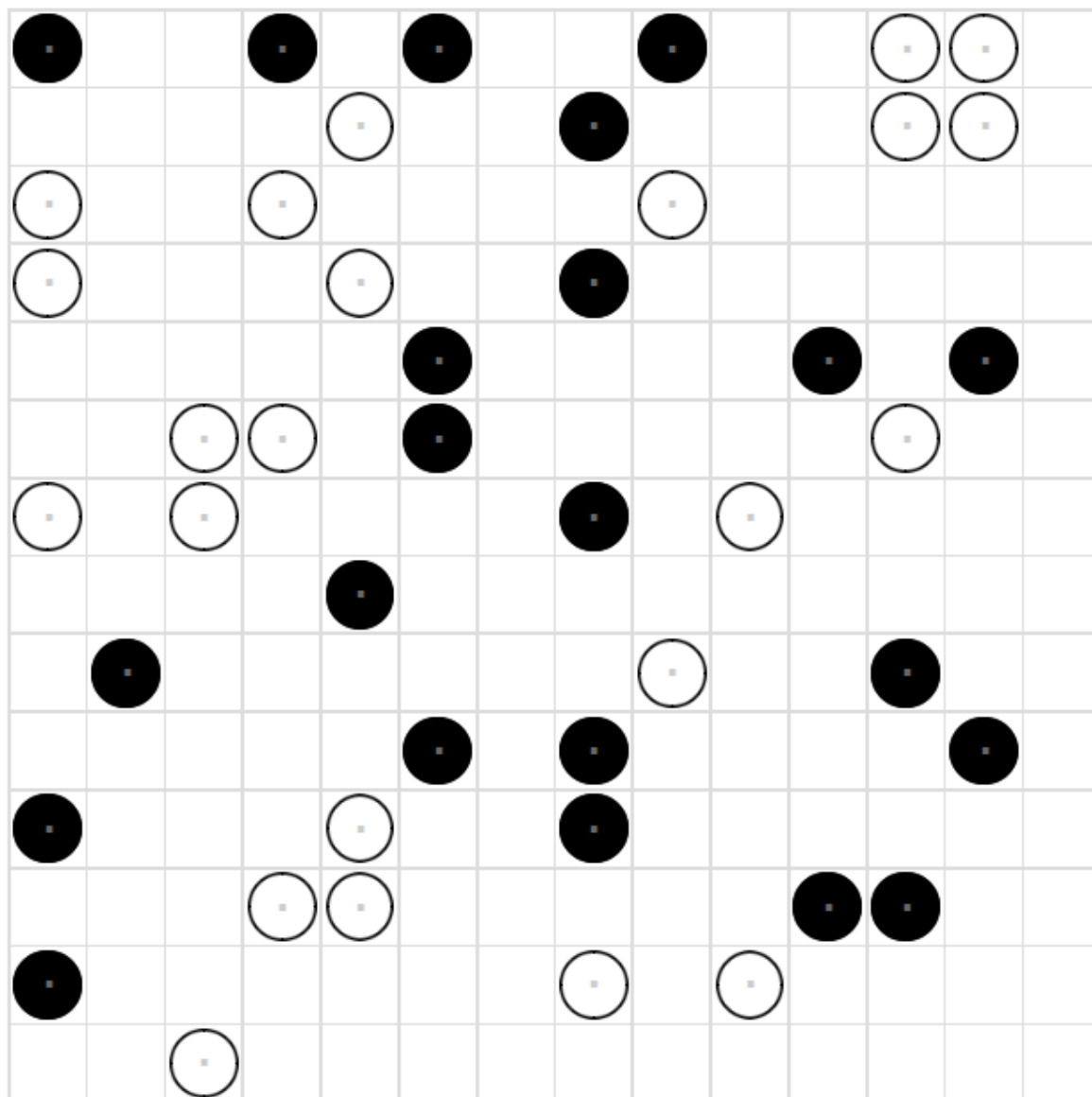




# Puzzle Milliken

This is definitely **not** a binary puzzle... It's called **binairo** and the rules are like this:

- All rows and columns are unique and contain the same amount of black and white circles
- No more than 2 circles of the same colour can be next to each other



**Tear or cut** this page out and deposit it in one of our boxes at buildings 46, 70A or 125 or **send a picture of your solution** to **macht@ugent.be** by **17 May** for a chance to win the awesome prize offered by **Milliken!** Good luck!

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

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

# Company of the Month: Prohead Engineering



Wil jij:

- ▶ Onze chemische industrie veiliger en performanter maken?
- ▶ Samenwerken aan innovatieve en duurzame projecten?
- ▶ Technisch uitgedaagd worden en samenwerken met experts?
- ▶ Een goede sfeer en work-life balance?

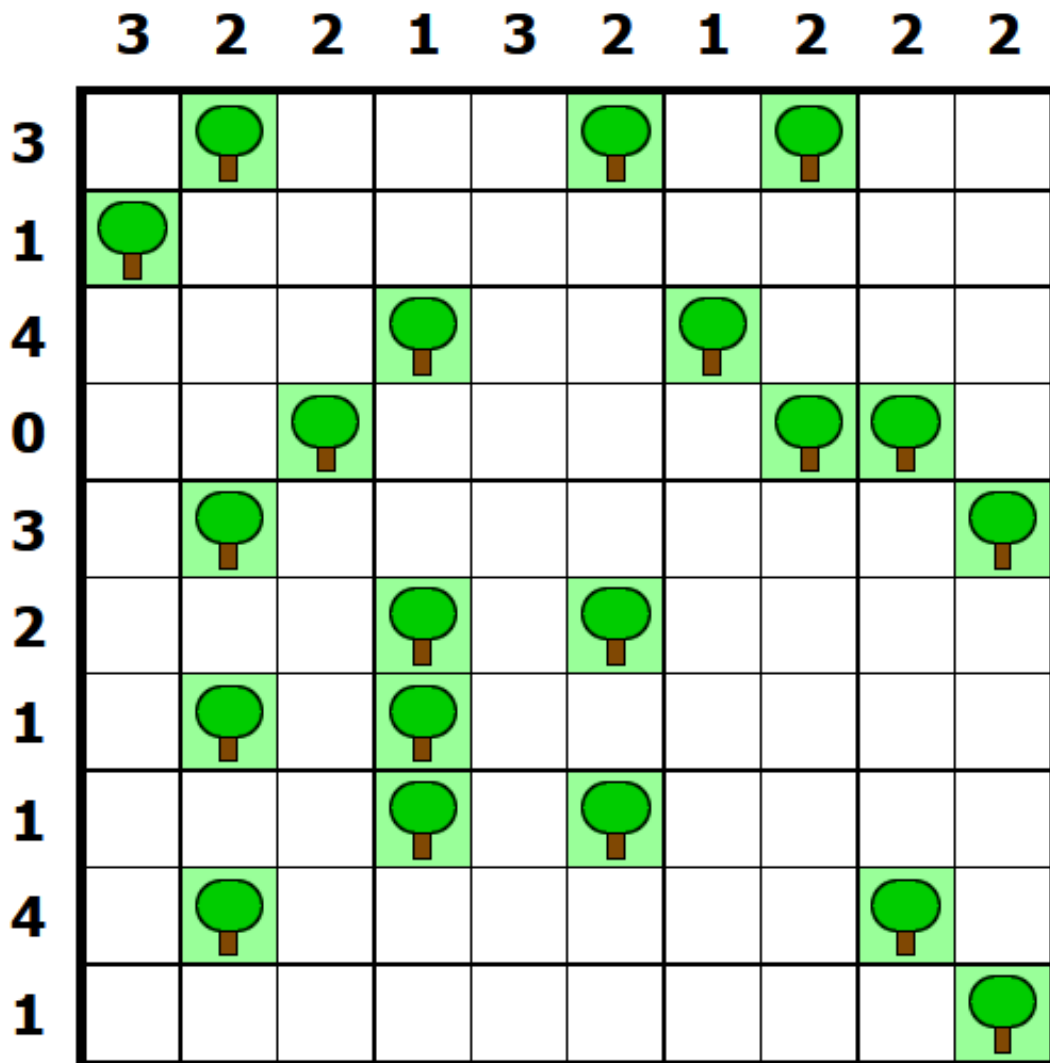
Contacteer ons dan via  
[jobs@prohead.be](mailto:jobs@prohead.be)



# Puzzle Prohead Engineering

Place a tent next to every tree! The rules for placing the tents are:

- Every tree needs a tent directly next to it (so not diagonally)
- Tents cannot touch each other (horizontally, vertically or diagonally)
- A tent can touch multiple trees and vice versa, but each tent only belongs to one tree
- The numbers show how many tents should be in each column or row



**Tear or cut** this page out and deposit it in one of our boxes at buildings 46, 70A or 125 or **send a picture of your solution** to [macht@ugent.be](mailto:macht@ugent.be) by **17 May** for a chance to win the awesome prize offered by **Prohead Engineering**! Good luck!

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

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



# Company of the Month: Worley



**Worley** is een toonaangevende wereldwijde leverancier van professionele project- en asset services in de energie-, chemie- en grondstoffensector.

**Worley België** telt meer dan 600 medewerkers, heeft kantoren in Antwerpen en Gent, en is aanwezig op klantlocaties. We werken aan nationale en internationale projecten.

Onze projecten vereisen de inzet van multidisciplinaire technische teams en bieden kansen om technische/organisatorische vaardigheden te verbreden.

We leveren professionele diensten voor advies, haalbaarheidsstudies, conceptstudies, basisontwerpen, gedetailleerd ontwerp, projectbeheer, aanbesteding en contractering, constructiebeheer, testen, oplevering, validatie, opstart en vergunningverlening.

Bij Worley België hebben we mogelijkheden voor (afgestudeerde en/of ervaren) Ingenieurs met een achtergrond in civiele, proces-, mechanische, E&I, piping, HSE.

Bekijk onze carrièrepagina op de Worley website en solliciteer online.

Start uw carrière in engineering bij Worley.

[www.worley.com](http://www.worley.com)

# Puzzle Worley

And for the final puzzle of this year... A normal **Sudoku**!

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

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

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

# Sponsors



**AD** Aluminium Duffel



**EASTMAN**

**ExxonMobil**

**INEOS**

**Deloitte.**



**Air Liquide**



**TotalEnergies**



Progress beyond

**V O L V O**

