

**ISSUE 1 | 2023/2024**

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**Per vectum**

**FEATURING**

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Introduction to the new board & committees



Interview with Dr. Koos Gubbels from the Acturieel Instituut



Aayush's internship at Tesla

PerVectum

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**Editor in Chief**

Aashia Chanana

**Co-editors and  
Graphic Designers**

Manuel Baptista

Fe Adorée Helder

Lotte van Gool

Daniela Daguta

Evlogjia Stefanidhi

Maria Barbuos

**Vectum**

P.O.Box 616

6200 MD

Maastricht

Visiting Address

Tapijnkazerne 11

Room I 2.002

6211 ME Maastricht

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**For more info or questions:**

<https://vectum-maastricht.nl>

secretary@vectum-maastricht.nl

# Word of The President



Dear reader,

I would initially like to warmly welcome our new members, I hope that you've had a positive first-period experience as well as a warm welcome back to all returning members of our association. I hope this message finds you all in high spirits and filled with a sense of accomplishment. As we look back on the first couple of months of our journey together, I am truly overwhelmed by the dedication, passion, and enthusiasm that each of you has brought to our association.

From the very initial moment I received the news of my new position in Vectum I have been filled with immense pride and gratitude to have been entrusted with this role. Vectum has been a big part of student life for me hence I feel great appreciation for being able to give back to the community that welcomed me so warmly two years ago. Naturally, I will not be doing this alone as I am joined by Joshua Smilde, Piotr Radziwanowski, Aashia Chanana, and Martin Bergmann. Together, we have the power to shape the future of our study association, paving the way for growth, innovation, and academic excellence. As External Affairs Coordinator, Joshua Smilde is mainly responsible for ensuring that our association has funds to continue operating by meeting with potential sponsors, as well as organising career events with some of those recruiters. Next, we have Piotr our Treasurer who not only acts as our private waiter every Tuesday but, some could say more importantly, is in charge of making budgets and other accounting-related tasks. Moving on, Aashia as Secretary, whose name you must be fairly familiar with seeing it frequently in your mailbox, is in charge of not only sending out those emails but among other things, taking minutes during our board meetings and managing our socials. She is also the Editor in Chief of the PerVectum, so thanks to her you are able to read these words to begin with. Last but not least, our Internal Affairs Coordinator Martin has the honour to organise our amazing regular Tuesday activities, as well as our trips for the year, which I hope no one will miss out on. My own role is to oversee this entire process and stand as the representative regarding other econometrics study associations in the Netherlands and of course with Scope.

I am honoured to say that it has been an incredibly successful first period starting off strong with our welcome activity where we had a record breaking total of 80 sign ups. As is tradition, we organised our initial event on top of Sint Pietersberg where we got to witness the breathtaking Maastricht sunset while playing several games and enjoying a picnic with each other's company. Wout also helped us test our member's determination as well as team working skills by losing his phone. Within minutes our skilled Vectum heroes were able to find it unharmed and without damage and safely return the phone to its worried owner. Our Vectum successes were surprisingly not used up for that week as we also managed to have an incredible First-Year-Trip with the warm Summer heat still around us helping us make the first years quickly feel at home.

After a packed week we had a more relaxed event: cocktails and games to further get to know each other through what better way than drinking. Moving on the activity in week 3 of course had to be the yearly Vectum scavenger hunt to ensure familiarisation with the outrageously large city of Maastricht to protect our members from getting lost in the future. As Vectum is well known for being a family we could not forget about our sporty members hence we decided to let our adventurous side out and go bouldering. In addition to this it is no secret that our association has quite a few Germans and we could not let them celebrate alone so in week 5 we held our famous Oktoberfest with of course our traditional beer pong tournament which quickly proved to show that our members do enjoy some healthy competition. Our final event of period 1 was our quarterly research lecture with the topic being Hotelling with externalities. This was not only a perfect way to end the period but also a way for bachelor students to meet their new E&OR course coordinator. To relive all of these amazing Vectum memories make sure to have a look at our pictures in the Facebook group or simply continue to read the remaining articles the PerVectum still has to offer.

Moreover, the support and engagement of our members has been truly remarkable. Your active participation in our activities, your willingness to contribute, and your eagerness to learn have created an environment that is both inspiring and motivating. It is your collective efforts that have made our study association thrive. Therefore, we always do our utmost best to try and accommodate you and make sure to support you wherever needed. For this exact reason, we try to ensure that our events are diverse and that we provide for everyone. Our events range from extra tutorials to social activities including sports, creativity, and drinking to business events to allow you to either understand what your passion is for the future or potentially meet your next employer. This year we are also incredibly proud to announce our first ever international trip which comes as a replacement for our previous ski trip. Our secret destination will be revealed shortly and I know we as a board are beyond excited for you to join us on this adventure.

Lastly, I want to take a moment to remind each and every one of you of the incredible power and potential you possess. Amid papers, exams, and the demands of academic life, it's easy to lose sight of just how capable and resilient you truly are. Remember, you are not alone on this journey. Within the walls of our study association, you are surrounded by a community of individuals who believe in you, who support you, and who are cheering you on every step of the way. Lean on each other, collaborate, and draw strength from the collective wisdom and experiences that this community offers. Celebrate your achievements, no matter how big or small. Each milestone reached, each project completed, and each new skill acquired is a testament to your dedication and hard work. Take a moment to acknowledge your progress and give yourself the credit you deserve. With this being said, I want to thank my board for the progress we have made so far and I cannot wait for many more successes to celebrate together.



**Aleksandra Piekarska**

29th President of 

# Meet the vectum Board for 2023-24

## President

### Aleksandra Piekarska

#### What are you for Vectum?:

create, communicate and implement the organisation's vision, mission and overall direction

#### What is Vectum for you?:

my favourite community

#### Drink of choice:

Aperol spritz

#### Your personal hell:

having to swim in the middle of the ocean when the water is very dark and you can't see anything below

#### Favourite memory in Vectum:

leading the painting workshop and getting to role play as Bob Ross

#### Your current obsession:

constant obsession; sudokus

## Vice President

### Joshua Smilde

#### What are you for Vectum?:

I'm Vectum's External Affairs Coordinator, but I like the title Vice-President as well. I'm responsible for the external communication, meaning the collaborations with companies & government institutions.

#### What is Vectum for you?:

My bebe.

#### Your dream vacation :

I'd like to travel Australia & South America

#### Your zombie apocalypse strategy:

Running faster than Piotr.

#### Favourite memory in Vectum:

Having my song 'Lonely' added to the cantus of the Member's weekend 2022. Shows why some people pay for auto-tune.

#### Drink of choice:

A good ol' pint of Guinness.



#### Current favourite meme:

Me in class taking a picture of the board that I know I will never look at again.



#### Weirdest food combination you enjoy?

Almette with muhammara on bread

#### One superpower you wish you had:

be able to speak any language



#### Current favourite meme:

eredivisie, stand per 29/10

1.	PSV	9	9	0	0	27	30- 3
2.	AZ	9	8	1	0	25	25- 4
3.	FC Twente	10	8	1	1	25	21- 7
4.	Feyenoord	10	7	2	1	23	33- 8
5.	Go Ahead	10	4	3	3	15	17-15
6.	Sparta R'dam	10	4	3	3	15	12-13
7.	Excelsior	10	3	4	3	13	17-18
8.	Heracles	10	3	3	4	12	14-22
9.	PEC Zwolle	10	3	2	5	11	12-17
10.	Heerenveen	10	3	1	6	10	13-21
11.	Fortuna Sit.	10	2	4	4	10	8-17
12.	NEC	9	2	3	4	9	14-16
13.	RKC Waalwijk	9	3	0	6	9	7-17
14.	Almere City	10	2	3	5	9	8-19
15.	Vitesse	10	2	2	6	8	7-16
16.	FC Volendam	9	2	1	6	7	11-19
17.	FC Utrecht	10	2	1	7	7	8-20
18.	Ajax	7	1	2	4	5	11-16

programma op 818 / topscorers op 832

#### Cringiest pickup line you can think of:

I tried all of them most likely. Maybe "Hey girl, do you love water?..."

#### What's your least favourite holiday and why:

Sint maarten. Greedy kids at the doorstep

## Secretary & PR Coordinator **Aashia Chanana**

### What are you for Vectum?:

As the Secretary and PR Coordinator, I am the Editor in Chief of our quarterly magazine, The PerVectum. I also roleplay as Vectum's personal photographer. However, my main task is to constantly spam you with emails and messages :)

### What is Vectum for you?:

My favourite way to spend a tuesday evening since first year

### Favourite place in Maastricht:

my bed

### Drink of choice:

Ta da ta da da, tequila

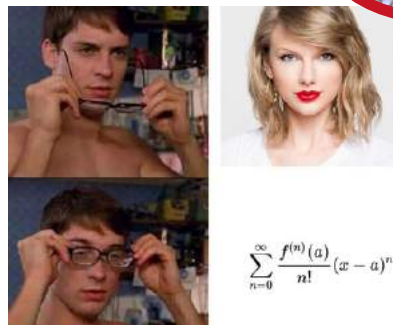
### The world would be a better place with more ...?

People who can understand Mr. Eichler

### Never have you ever?

Succeeded at chugging beer

### Current favourite meme:



### Your greatest fear?

Being caught in a real life prisoner's dilemma

### Favourite memory in Vectum:

Annual GMA'23; I was so nervous about the GMA but vibing to Taylor Swift with Marie during the trial runs was top tier

## Treasurer **Piotr Radziwanowski**

### What are you for Vectum?:

I'm the Treasurer, taking care of finances and extra tutorials

### What is Vectum for you?:

Place where I meet my great friends & create a community

### Drink of choice:

A 0% beer, the only drink that doesn't mess up with my health and gains

### A secret rumour/conspiracy theory you'd like to start?

Quantitative Introduction to Business exists to check your mental strength.

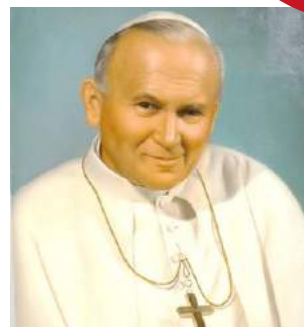
### Your biggest red flag:

Listening to war songs

### Whats the most useless fact you know?:

A famous polish journalist Daniel Passent, who joined the (back then) communist Newspaper "Polityka" in 1958, wrote his first text about econometrics, with the title "Is econometrics a bourgeois science?"

### Current favourite meme:



### Favourite memory in Vectum:

speaking Dutch on an in-house day in the Ministerie for the whole day hehe

### If you could take the place of any political leader in the world, who would it be?

The Polish Prime Minister Mateusz Morawiecki, might be interested in many countries but there is only one fatherland.

# Internal Affairs Coordinator

## Martin Bergmann



### What are you for Vectum?:

I'm the IAC. I am responsible for coming up with activities and executing them. For that I also have the Activities Committee which I head. The great trips (MW and FYT and International Trip) and Tuesday activities are all under my responsibility.

### What is Vectum for you?:

The place that boosted my social life, where I see my friends and have fun.

### What TV show would

**you like to be the main character in?**

Archer

### Drink of choice:

Pina Colada dependant on the mood, vodka-based cocktails normally

### Best food you've had in Maastricht:

Seared salmon with rice and caramelised wine-soy sauce glazed vegetables (self-made, of course).  
Otherwise Ribs at Carnal

### One country you would never want to live in:

North Korea

### Current favourite meme:

Me laughing at my own jokes before I hit send



### You in 1 sentence:

I'm a smart and dedicated student that loves to travel whenever possible and otherwise spend time with friends and loved-ones.

### Favourite memory in Vectum:

Ski Trip 2022, the second event that I joined and that made me join every single event I was physically able to afterwards



**We're excited to have you in Vectum, See you Tuesday!**

## Public Relations Committee



*from left to right: Evlogjia Stefanidhi, Daniela Daguta, Fe Helder, Aashia Chanana, Maria Barbueros, Lotte van Gool & Manuel Baptista*

## Activities Committee



*from left to right: Quinn Cuijpers, Timo Jetten, Edoardo Sollai, Janne de Graaff & Martin Bergmann*

## External Affairs Committee



*from left to right: Fabian Brock, Martin Bergmann, Aayush Holkar, Joshua Smilde, Piotr Radziwanowski & Maxim Schoonbrood*



# Welcome Activity



By Daniela Daguta

Traditionally, one of the biggest activities organised by Vectum is the welcome activity at the beginning of the year. This year was no exception, and the activity kicked off the new academic year. The event, which took place on a hot day in early September, brought together students to reconnect after the summer vacation and, most importantly, to create a welcoming atmosphere for the first-year students.

As students returned to campus, the anticipation for the Welcome Activity was palpable. Everyone was eager to reunite with friends and classmates, and first-year students were especially looking forward to meeting their new peers. The gathering point was the SBE building, where with a mix of smiles and anticipation we walked to the Sint Pieter mountain. Upon arriving, everyone was divided into teams and a series of fun and engaging games began.

Name games were the perfect icebreaker to help everyone get to know each other and build connections. One of the most exciting games was flunky ball, that added a dash of friendly competition to the event. Teams were formed, and strategic plays led to moments of suspense and cheers.



A classic favourite was football, which was a fantastic way to bond and showcase teamwork. During the football match, the spirit of competition was alive and kicking, quite literally! As students sprinted across the field chasing the ball, one unfortunate incident added a touch of hilarity to the game.

At some point, a phone decided to take a detour of its own, disappearing into the grass. Thankfully, after some suspenseful moments, the lost phone was discovered, much to the relief of its owner and the amusement of all the players. The incident, while unexpected, added an extra layer of camaraderie to the already vibrant day of fun and games.

To keep everyone fueled and refreshed, a spread of food and drinks was provided, ensuring that no one went hungry or thirsty.

**The Welcome Activity was more than just a day of fun; it was a day of community-building. First-year students had the chance to meet their fellow students, make friends, and begin their university journey with a strong support network. For returning students, it was a great opportunity to reconnect with old friends and make new ones.**



# First Year Trip



By Maria Barbueros

The "first-year trip" is an honored tradition at Vectum that has been cherished by students for many years. It's an event that not only serves as a fun and exciting adventure for the new econometrics students but also plays an important role in their integration into the Vectum family. The trip was perfectly organized to include a mix of team-building activities, friendly competitions, and opportunities for students to connect on a deeper level. These experiences foster a sense of unity and help build friendships that will last throughout the academic journey.



The starting point of the activity was on Friday, when we gathered in groups of 4 and traveled to our accommodation in Hengelhoeft, Belgium. One of the unique things about the first-year trip is that the location is kept a secret before the event. So, when we arrived at the destination, we were pleasantly surprised to see a nice camping site that would become our "residence" for the weekend.

Since we arrived in the evening and the food wasn't yet ready, we got to play a couple of rounds of beach volleyball. This was the perfect icebreaker, installing a sense of unity even among those who did not know each other. Laughter echoed across the sandy court as we cheered each other on, whether we were seasoned players or newcomers to the game. The game continued well after the sunset, and only when we couldn't see each other anymore was it time for dinner, where we enjoyed a tasty dish of pasta.

The night continued with a series of drinking games. We were separated into groups and, group by group, visited various stations, where either a summer committee member or a board member awaited us with a specially prepared activity. Even though "Rage Cage" was the funniest, "King's Cup" ended up being the most popular. Of course, we engaged in the Vectum quiz, where we learned about the board members and the history of both Vectum and Maastricht. By the end of the night, we were mostly split among two groups: those playing "King's Cup" and those joining "Never Have I Ever", the last one being the perfect opportunity to discover each other's "secrets".



Saturday, after breakfast, we were introduced to this year's game: "The Murder Mystery." Each of us was assigned one of two roles: the murderer or the victim. Throughout the day, the "murderers" would have to "kill" everyone else, while the ones that survived had to guess and reveal the identity of the "killers". The mystery continued while we played other games as well, volleyball being the most popular. Some chose to spend some time at the swimming pool, while others tried mini-golf and tennis. However, at noon, when the sun was at its highest, card games took the throne as the go-to activity, especially since we had a variety of options to choose from, given the international background of the students. In the afternoon, we went to a nearby forest to experience the typical Dutch stratego. The most adventurous part of this game was that we had to combine it with the strategies established for the "murder mystery".

Later, over dinner, we had to draw the conclusions of the day and reveal the identities of the murderers. Unfortunately, the victims lost, but that is only because there was one extra "murderer", which surprised everyone. But, in games, just like in life, not everything is perfect, and the tiny deviation from the rules did not stop us from having a lot of fun.



Finally, on Sunday, we left right after breakfast, in the same groups as when we arrived. The car rides to Maastricht were equally enjoyable, if not more, because we now knew each other better.



The Vectum "first year trip" was definitely one of the most memorable activities we had so far. It was full of fun, laughter, and opportunities to bond with our fellow students. It definitely made us feel closer to each other. So, I would recommend it without hesitation to everyone joining econometrics in the following years.



# Interview with Dr. Koos Gubbels

By Aashia Chanana & Joshua Smilde



## Could you briefly introduce yourself and your role at the Actuarial Institute?

My name is Koos Gubbels. I am 41 years old, I am married, and I have 3 children. My hobbies are playing tennis and coaching the soccer team of my youngest son. Currently, I have 2 different functions. My main job is at Achmea as a senior actuary, where I make mathematical models for various risks (to be explained later). This is also exactly what we teach at the Actuarial Institute (AI). I am part time academic director of the Executive Master of Actuarial Science (EMAS), where I am responsible for the quality of the program. In the programme we educate students to become a qualified actuary. I overview the program and I also teach one course and one case study myself. What I like about having these functions simultaneously is that at Achmea I do the actual work as an actuary, and at the AI I use my experience to teach academic courses about what I do in my daily work. This also works vice versa. I can apply the advanced theories that I teach at the AI in my daily work.



## Can you explain in detail your tasks as a senior actuary at Achmea?

At Achmea, I mainly develop and apply risk models. As an actuary you are a quantitative risk professional, who works in the insurance, pension, or banking industry. Achmea is a big company and we offer a lot of different insurance contracts. This means that Achmea pays out claims that depend on how long people live (life insurance), how healthy people are (health and disability insurance), or whether there is a big storm (house and care insurance). Clients pay premiums for the insurance products that they purchase from us. Of course, we cannot keep all that money under a pillow, so we need to invest it. This leads to market risks, such as interest rate risk or equity risk. We have mathematical models to determine all these different financial risks, both the insurance risks and the market risks.

We use these models to determine the capital buffer of Achmea, so that the company does not go bankrupt. By European law, the buffer must prevent bankruptcy on a one-year horizon with 99.5% certainty. As an insurer, we must maintain a financial buffer so that our clients are well protected, and so that Achmea is able to pay out claims if our clients encounter adversity. For example this occurs when they have an accident or when their house burns down. We pay out our clients in case of adverse events, so they can rebuild their lives.

All these events are driven by risks. Personally, I mainly work on market risk and natural catastrophe risk. For the natural catastrophe risk model, we consider flood risk, wind storm risk and hail risk, which are sensitive to climate change. For the market risk model, we consider interest rates, stock markets, mortgage markets and bond markets. In the end we combine all these different risk models to determine the total amount of buffer we need

## You completed your PhD in Physics from Germany, what made you switch paths and study Actuarial Sciences in the Netherlands?

As a physicist, I worked on statistical physics models. These are mathematically similar to those we use for the financial markets. I therefore consider myself an applied mathematician. I like to develop mathematical models, and I also like to apply them. In physics you apply them to nature and in actuarial science you apply them to risks in the society. For me, the main theme is to develop applied mathematical models that are useful for society.

The reason to switch fields was partly personal. At some point I had a family that was expanding, but I was still in academia at the time and I was working at a university in Germany. I wanted something closer to home. I started looking for careers in the Netherlands. I applied quite widely and I found an opportunity, where I could work as a financial risk expert and at the same time follow a new study, the actuarial master of science program. In physics, I worked on a very detailed problem that was far removed from society. In the actuarial profession you still work with mathematical models, but the impact on people is much more direct. For example, these mathematical models determine how much money people have for their pensions. Something I continue to enjoy is this direct link and impact to society. It also has practical advantages. We only need a few physicists in the country that study ultracold atoms, but we need many actuaries in the Netherlands, because we have a large pension system, a large banking system, and because everyone needs health insurance. So there are a lot of opportunities for actuaries.



## How long have you been working with the Acturieel Instituut?

When I switched to the actuarial field, I started directly with my actuarial training. I worked for a health insurance company, a life insurance company and for a bank. As a result, I explored different topics and I discovered what fits best to me. At some point I realised that I also missed teaching. I have always really enjoyed that, also during my PhD and when I was working at the university. With this in mind, I asked the Acturieel Instituut if they needed people to teach. Coincidentally, this was around the time that the Institute started its own actuarial study programme. Before, there was a collaboration with the Business School of Tilburg University (TIAS). Because the Actuarial Institute was going to offer the programme by themselves, they needed teachers and they searched for someone with my expertise. I started to teach a course on market risks and afterwards I designed a case, in which students build their own capital model. I gradually expanded my role by developing a new pre-master programme. When the previous academic director stopped because of a bigger role somewhere else, I was given the opportunity to take on the job as the academic director for the master's programme.

**You are working two jobs simultaneously; what does a regular work week look like for you? How do you balance work and private life?**

I work one day a week for the Actuarial Institute, and I work for Achmea the other 4 days. What helps is that I consider most of my work as a hobby, because both teaching and mathematical modelling is something I really enjoy. I do not even consider these things as work. Of course, it is very busy to combine both functions, because they are both demanding. It requires a lot of investment in time and effort, which is sometimes challenging when you also have your family and your personal life to balance. However, because I consider my job as a hobby, it gives me energy.”

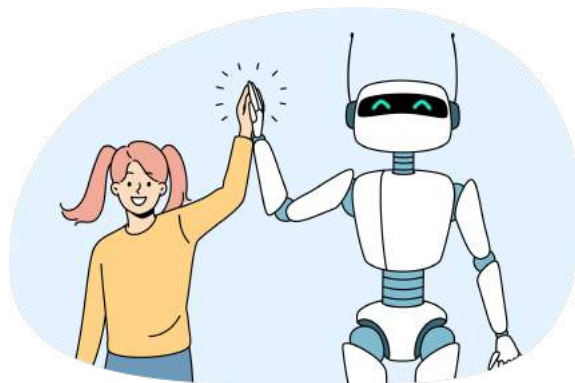
*Addition by Maarten van Meerten: Koos is also very committed to the Actuarial Association (Koninklijk Actuarieel Genootschap). For example, he is on the editorial board of the magazine Actuaris and of The European Actuary, an online magazine published by the AAE (Actuarial Association of Europe).*

I find it important to share knowledge with everyone. You can do this through education, but actuarial magazines also provide a platform to share knowledge. I also like to write myself about things that excite me. My employer supports this. It helps to build your network and increases your knowledge about everything that is going on in your field of work.

**How do your two roles profit from each other?**

An important for our educational programme is that we continuously want to improve and evolve, which requires us to know what is happening in our field around the world. A good way to know and to experience this, is to work for a large insurance company. Big insurance companies have many different risk types in their products. When there are major changes in technology, legislation or social developments, then you can learn about them in practice by working at a big company.

A concrete example of such a development is Data Science and Artificial Intelligence. As these developments get bigger and bigger in financial companies, you want to implement these developments in the actuarial education as well. This also works the other way around. You want the actuarial students to learn from leading academic experts in these fields, so that they can help their companies further in these areas. In this way, you can put together an educational programme that is relevant to academia, society and business.



**Do you believe that Artificial Intelligence will endanger the work of an actuary?**

I am more of an optimist than a pessimist. Artificial Intelligence is a field that is part of our programme and any actuary should master it. It is not something to be afraid of, but it is something to learn and to apply in a responsible way. You need to know all these advanced statistical techniques as part of the education and the profession. I do not see the role of an actuary becoming redundant any time soon, because in financial institutions it is very important to be responsible and accountable. There are many ways things that can go wrong with incorrect model choices. This is particularly important, because the work we do is directly related to people’s health, life, and finances. Responsibility and data quality are crucial in our sector. It is not like you can throw the data blindly into an algorithm without understanding what is happening and expecting it to give you a perfect solution. I have seen this go wrong many times. The domain knowledge is very crucial. There is not yet one solution that is free of failure and that fits all.

I see Artificial Intelligence as an opportunity for actuaries because you need someone who understands the algorithms, who knows the needs of the company, and has the responsibility to provide a fit-for-purpose solution to the problem at hand. There currently still has to be a human factor in it, because we have to be able to explain our decisions and outcomes to clients. The application of Artificial Intelligence is important, because you can use it to become a better actuary. However, I do not foresee financial professionals being replaced soon, because the importance of responsibility and explainability is big in our sector.

### **Do you have some advice for students who are considering this study?**

An advantage of following the EMAS programme lies in the possibility to become part of the Actuarial Association afterwards. This association provides continuous education, events, and a diverse community, so that it ensures staying updated and connected within the sector. The association not only broadens your perspective but also aids in personal development, allowing to actively participate across various risk domains. The broad education in the EMAS also facilitates a wider view and a deeper understanding of one's own preferences in the actuarial field and one's potential contributions to society.



Joshua, Koos and Aashia at the Acturieel Instituut in Utrecht

### **Why should a student choose by an actuary?**

As mentioned, the actuarial profession is a very broad field in my opinion. You can study market risks, longevity risks, health risks, catastrophe risks, artificial intelligence and climate change, all within the same profession. What I also really like is that insurers sell products that improve the lives of real people. Everyone really needs an insurance for their house, for your health. The same goes for your pension. This is an important product for everyone.

From a career perspective, there are many interesting and different options to choose from. The Netherlands has a big pension sector, a big consultancy, a big insurance and a big banking sector. So there are many different opportunities with many interesting jobs, which will not disappear anytime soon. These jobs also continuously develop with new trends such as Artificial Intelligence or Climate Change.

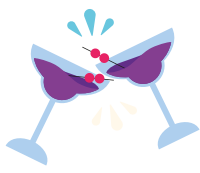
### **Your last words to the students at Maastricht University**

What I say to all students is that I think it is important to choose what you are enthusiastic and passionate about. You must discover for yourself which topics really excite you. I hope that the students who leave the building at our Actuarial Institute are enthusiastic about what they have learned here and are ready to be make an impact as an actuary.”

“Finally, as an actuary you can combine your passion for quantitative techniques with solutions for societal challenges. In other words, this study gives you the opportunity to contribute to a better world for all of us!

*If you would like to know more about the Executive Master of Actuarial Science (EMAS), please visit the website of [Actuarieel Instituut](#). If you would like to know more about actuarial science, career opportunities or the association, please visit the website of the [Royal Actuarial Association](#).*

**We would like to thank Dr. Koos Gubbels and the Acturieel Instituut for this opportunity**



# Cocktails & Games



By **Aashia Chanana**

The evening of September 12, 2023, Maastricht was drenched in rain, but that didn't dampen the spirits of those who joined us this week's activity. Picture this: groups of 5-7 rain-soaked warriors rotating between three hosts, each promising a unique adventure.

First up, we had the Cocktail Station, where participants unleashed their inner mixologists. Under the watchful eyes of our bartenders: Aleksandra, Joshua, Chalisa and Piotr, they whipped up colorful concoctions that could make a rainbow blush. The rain outside was no match for the tropical storms happening in our glasses!

Next on the agenda – the Card Carnival! Kings Cup and classic card games turned the venue into a laughter-filled battleground. The strategic masterminds emerged, and the losers faced hilarious consequences. Spoiler alert: there were plenty of those!



Then came the Thunderdome of Drinking Games – Rage Cage and Beer Pong. Cheers and groans competed with the raindrops outside. The competition was fierce, and the rain, well, it was just background music to our victories and defeats.

Sure, the weather tried to play party pooper, but our attendees turned rain gear into fashion statements. Ponchos became the new party chic, and umbrellas were twirled like dance props. Who knew rain could be so fabulous? As the gaming sessions wrapped up, the party shifted to the cozy haven of the bar Preuverij. Stories were shared, friendships solidified, and more drinks flowed. The transition was seamless, like a dance move you've practised a thousand times.

In the end, raindrops couldn't wash away the joy of shared experiences at our very first Cocktails and Games activity. This Vectum tuesday wasn't just a party; it was a legendary escapade that proved rain or shine, the spirit of fun will always prevail!







# Scavenger Hunt



By Lotte van Gool



Last period, it was time for the famous Vectum scavenger hunt! Groups of econometricians terrorized the city of Maastricht for one night, completing tasks. This promised an evening full of laughter, fun, and craziness.

The set-up for the scavenger hunt was easy. Everyone got together at the Vrijthof and was divided into teams of about four students. Then each team got their list of tasks and got started. Tasks were worth a certain amount of points based on how crazy or strange they were. It was a competition, so each team got started quickly, as they only had a few hours to complete as many tasks as possible.

As the teams got to work, the photos and videos started pouring in. One team did a cucumber sword fight in a supermarket with a stranger; others went to do a workout while eating a burger or made a human pyramid. Titanic was by far the most popular movie scene to recreate, as every team had this idea. The photos and videos got crazier and crazier as the evening went on. Towards the end, some economists even decided to go for the infamous skinny dip in the Maas.

After a few hours, the teams had to be back at Preuverij. If teams couldn't make it on time, points were deducted. So, many teams had to sprint through Maastricht to Preuverij. But then it was time to relax with some drinks and share your adventures of the evening with the other teams. But most importantly, the winner was announced. I am very pleased to say that the team that won was Edwin, Famke, Tom, and myself! It is safe to say everyone had a blast at this event, winners or not.

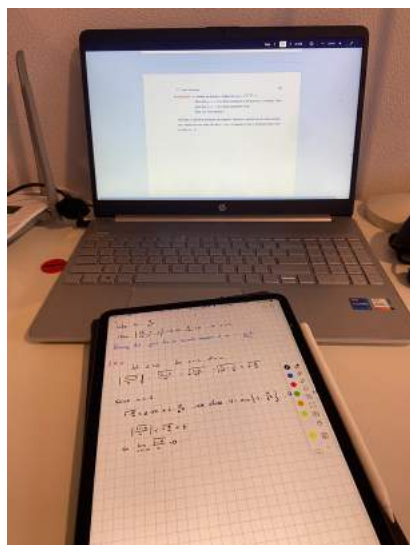


# Vectum beyond Econometrics

By Manuel Baptista



VS



Balancing academics and pursuing a semi-professional career in sports is a challenging task that many students face. I'm Manuel, a first-year student in Econometrics and Operations Research.

As I've been doing judo for 14 years, one of my priorities when coming to Maastricht was finding a good judo club to continue my journey as an athlete and being a part of the Portuguese national judo team. With my results in international competitions, I was able to get the Top Sport Status from Portugal as well as from Limburg, which is recognized by our university. In this article, I will explain how I try to manage and excel in both my academic pursuits and my judo career while studying econometrics at Maastricht University.

One of the key perks that gives me the ability to perform well in both my studies and my judo career is my top sport status. This status allows me to receive support from the university. This support includes the ability to reschedule tutorials to accommodate either my training or competition schedule. For example, being Portuguese, sometimes I have to compete in Portugal for selection purposes. With the help of UM, I can reschedule my Friday tutorials to an earlier hour so I can be able to travel for the competition.

The University of Maastricht has played a vital role in this journey. Professors and academic advisors have been understanding and accommodating, allowing me to reschedule tutorials even with short notice. This support has enabled me to maintain high academic standards while pursuing my judo dreams of going to the Olympic Games.



Although there is a lot of help coming from the university, I also have to be very dedicated to both my studies and judo (in which I have approximately 10–15 hours of training per week). Even when travelling for training sessions and competitions, I never stop studying, and I have to seize every opportunity to get some studying done.



My journey as a first-year econometrics student and a national judo team member has been difficult, but I'm determined to pursue both academics and a semi-professional sports career. I'm trying to demonstrate that it's possible to excel in both areas with dedication, discipline, time management, and the support of a university that values its student-athletes. I'm just one of many students in Maastricht who are trying to pursue both academic and high-level sports careers.





# Bouldering

By Aashia Chanana

Curious about bouldering? Picture this: a gravity-defying dance on short walls, a rock-climbing escapade without the safety net of ropes. In a world where tree-climbing is no longer socially acceptable for adults (apparently), we find solace and excitement in the thrilling world of bouldering.

On the evening of September 26, Vectum gathered at Maastricht's Radium Boulders. Imagine an atmosphere charged with challenging routes and the sweet melody of laughter and camaraderie. Before we embarked on our ascent, there was a quick round of safety rules and an information session – a crucial prelude to the impending vertical adventure.

As the seasoned climbers confidently gravitated towards the most daunting paths, the novices, like me, took it easy, navigating the less demanding routes to build our courage. Admittedly, as someone with a knack for stumbling, my initial fear of injury kept me more on the sidelines, meticulously observing and capturing the impressive feats of my fellow climbers. However, witnessing everyone conquer their fears inspired me to shelve my apprehensions and take the plunge. And let me tell you, it was a challenge, but the sense of accomplishment was absolutely worth it!

As the collective exhaustion set in, we migrated to the bar within Radium. Amidst the clinking of glasses and the hum of conversations, we shared more than just drinks – we shared stories, laughter, and a glimpse into each other's worlds.



# My Internship at Tesla

By Aayush Holkar

Embarking on an internship journey at Tesla EMEA, the headquarters for Europe, the Middle East, and Africa, has been nothing short of transformative. Commencing in August and extending until February, this experience has offered a deep dive into the dynamic world of Tesla, where innovation, responsibility, and international collaboration converge.

The commute to Amsterdam, undertaken sometimes twice or even thrice a week, stands out as one of the most challenging yet rewarding aspects of this internship. The bustling cityscape and the anticipation of another day at Tesla serve as constant motivators, fueling my commitment to contribute meaningfully to the ground-breaking work happening within the organization.

Within the vast realm of Tesla's operations, my internship has found its niche within the Supply Chain team, specifically focusing on the supply chain for finished vehicles – a critical bottleneck in the business process. From day one, I was entrusted with a significant level of responsibility, thrust into a fast-paced environment where every decision counts. The learning curve has been steep, but the hands-on experience has been invaluable in shaping my understanding of supply chain intricacies.

One of the most exciting aspects of this internship is the opportunity to spearhead an independent project. The autonomy granted underscores the trust placed in interns and is a testament to Tesla's commitment to nurturing talent. This project has not only honed my technical skills but has also provided a platform for creative problem-solving, encouraging me to think outside the conventional boundaries of supply chain management.

The Supply Chain team at Tesla EMEA is not just a workplace; it's a community of like-minded individuals dedicated to pushing the boundaries of what is possible. The team's dynamic and international composition mirrors the global reach of Tesla, fostering an environment where diverse perspectives converge to solve complex challenges.





The camaraderie within the team has been instrumental in my professional growth, as the collective knowledge and experience of my colleagues have been readily shared to aid in my development.

Looking ahead, I am eager to leverage the skills and insights gained during this internship to contribute meaningfully to the ever-evolving landscape of supply chain management. The experience has not only been a stepping stone in my career but a chapter that I hope will intersect with the future endeavors of Tesla.

As the internship draws to a close in February, I am grateful for the opportunities, the challenges, and the invaluable connections forged within the Tesla EMEA family.

What sets this internship apart is the chill and understanding atmosphere that pervades the workplace. Despite the high stakes and demanding nature of the work, the team radiates a sense of approachability and collaboration. This not only eases the learning process but also fosters an environment where questions are welcomed, and discussions are encouraged. The openness within the team has made every challenge surmountable, turning obstacles into opportunities for growth.

As I reflect on the past months, I find myself not only professionally fulfilled but genuinely passionate about the work I am doing. My love for working at Tesla is a testament to the company's ethos of innovation, responsibility, and a relentless pursuit of excellence. The internship has been a journey of self-discovery, a realization of my capabilities and a glimpse into the impactful work that shapes the future of transportation.





# Oktoberfest



By Fe Adorée Helder

The Vectum community once again embraced the Oktoberfest tradition, marking the celebration on October 6th at SV Circumflex. True to the essence of Oktoberfest, the event was brimming with good beer, accompanied by the rhythmic beats of German music. The ladies adorned themselves in striking Dirndls and charming hairstyles, while the gentlemen exhibited their sophistication in elaborate Lederhosen. A notable moment unfolded during Vectum's legendary and intense beer pong tournament, ultimately won by the dynamic duo of Paul and Arman. The title of best-dressed was bestowed upon Cecile, who turned heads with her stunning and authentically traditional Dirndl.



Oktoberfest unfolded with joy, featuring laughter, dancing, and spirited toasts. However, as midnight approached, our focus shifted to celebrating the birthday of one of our dearest members—Alles Gute zum Geburtstag Bincker!

Although the festivities ended too quickly, the experience has left us eagerly anticipating next year's celebration. This serves as a gentle nudge for all of us to begin preparing for the upcoming beer pong competition and don our most traditional Bavarian attire. The countdown to next year's Oktoberfest has already begun!

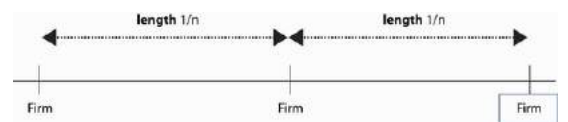
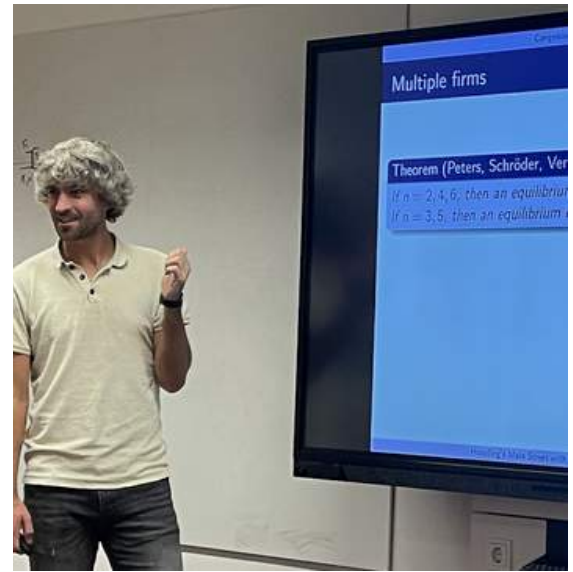


🍺 WIR SEHEN UNS NÄCHSTES JAHR !!! 🍺

# Research Lecture

**By Martin Bergmann**

The academic year at Vectum begins with great enthusiasm as we welcome our first guest lecturer for this year, Marc Schroder. Marc is well-known for coordinating courses like Game Theory and Orientation, and this lecture is a special opportunity for members to discover his research. While a lot can be written about the person himself, this article focuses on the lecture itself. However, it is highly recommended to read the second issue of the Per Vectum 2022 / 23 in which you can find an intriguing interview with none other than Marc himself. In his lecture, Marc first introduced the famous Hotelling location game. This game teaches us that businesses tend to set up shop close to one another when they want to attract more customers. However, Marc added a twist by considering a new way people make choices. In this model, people think about how far they have to travel and how many other people are going to a store when they decide where to shop.



Marc explained all of this using simple, real-life examples that made it easier to understand. He also encouraged questions and discussions to help us grasp the ideas better. What will stay with most students that attended the lecture are the theorems that Marc, with help of other professors at this university or from outside, created and helped to analyze this particular topic.

After the lecture, we also had a short presentation about the committees that make Vectum what it is and we were happy to see a high interest in those (to see more details about the committees, just make yourself through the magazine). We ended the night with drinks at the Preuv with Marc attending and us getting to know him even better.



**Lastly, Vectum wants to use this opportunity again to thank Marc Schroder for his time and the enticing lecture he gave and we look forward to working with him in the upcoming years in his role as the BSc. Study Programme Coordinator.**





## Interview with Dies Baveco Senior Energy Trader at Northpool

# 'AS SOON AS WE START TRADING THERE IS ENERGY IN THE ROOM'

Dies Baveco is a senior trader working for Northpool for five years now while at first he was not even aware of the profession. Unaware of the complex world behind flipping the light switch. A visit to the office resulted in a job after his studie energy science.

### What's your first memory of the company?

"All the screens I saw everywhere and all the sounds I heard. Impressive. And when I asked where all of that is used for, I got the whole story of what energy trading tales. That explanation appealed to me. When I started we were trading Germany and France and currently we trade most of Western Europe. When I arrive at the office I am always looking forward to start trading and even more growth."

### How important is team spirit in your position?

"Everything is about teamwork. You can't cover Western Europe alone and for that reason we divide different countries among the traders during a shift. What happens in one country also has an effect on what happens in the surrounding countries. Communication and teamwork between the traders is very important as trading can be quite hectic."

### What makes it so interesting to work in energy trading?

"What stands out for me is the diversity during and between shifts. All countries have their own energy mix, their own

country specific fundamentals that drive the power supply and demand and also their own internal power market design. This versatility already leads to a wide range of scenarios that can occur within a country during a trading day. But as Western Europe has one power market wherein power is exchanged between countries, the number of scenarios that can occur during a day is almost infinite. Everyday there are new puzzles to solve and new opportunities."

### So that makes it extra challenging for you too?

"This work is almost like playing a strategy board game. Northpool trades – within and across borders – to bring power from where it is least needed to where it is most needed. To do so we continuously have to determine where power is needed most, but also how we are going to get it there. But we are not the only ones doing so there are also other players, we have to be the first to do it and beat the others. If you don't bring the power other players might do so instead. That can just as well be the goal of a strategy board game and also makes it a bit addictive."

We like to share our knowledge and are always looking for talent. So if you have an analytical mind, superb mathematical instincts and you can't rest until you solve the task: apply!

[WWW.NORTHPOOL.NL/VACANCIES](http://WWW.NORTHPOOL.NL/VACANCIES)

# Maastricht's Student friendly restaurants

Ready to swap your textbooks for menus and turn your study sessions into culinary adventures? We're about to uncover the city's best the student-friendly joints that make your taste buds do a happy dance. So, put down that highlighter, pick up a fork, and join us on a mouthwatering tour of Maastricht's most delicious hotspots. From brain fuel to belly fill – let's dive into the tasty side of student life! 🍔🍷

Coffee or Tea



**MONKEY COFFEE**

**€3-7**

Step in, and you'll be greeted by the aroma of freshly ground beans and the friendly chatter of fellow coffee enthusiasts. Their menu is a playground for coffee lovers, offering everything from classic espressos to quirky, Instagram-worthy creations. Whether you're a black coffee purist or an aficionado of frothy, flavored concoctions, Monkey Coffee has a cup tailored just for you. Flash your student ID and claim your 10% student discount. While there might not be a study place here, you can take their coffees and donuts to-go and enjoy them during your study breaks at ICL

**COFFEELOVERS, ★★★★★  
BOEKHANDEL DOMINICANEN**

**€5-7**

If you fancy studying in a bookstore with a side of excellent coffee, Boekhandel Dominicanen is the place to be. This unique spot is located in a beautifully repurposed church and offers an extensive collection of books along with a cozy cafe where you can enjoy a cup of coffee while studying.





**KOFFIE**

**BY JOOST & MAARTJE**

**€5-7**



A coffee shop with a minimalist vibe, Koffie by Joost & Maartje is a delightful spot for those who appreciate simplicity and great coffee. The owners are passionate about their beans, and the result is a menu that showcases the best in coffee craftsmanship. It's a small but cozy space, perfect for an intimate coffee experience. It's a perfect place to study on a rainy day while enjoying the warmth of the cafe.

**PIECE OF CAKE**



**€5-7**

It isn't just a bakery; it's a welcoming haven that beckons students with the promise of delightful desserts and the comforting embrace of a perfect cup of tea. Let the aroma of freshly brewed tea and the tempting desserts be the backdrop to your study sessions, creating a memorable experience where productivity meets palate-pleasing indulgence.



*Lunch or Dinner*

**OODLES OF NOODELS**



**€8-13**

Tucked away in Maastricht so close to SBE, this spot takes your noodle cravings to new heights. With a menu as diverse as the types of noodles they offer, Oodles of Noodles is a noodle lover's dream come true. The best part? It's not just about noodles; it's about customization. Pick your noodle type, choose a protein, and let them work their magic with an array of fresh veggies and flavorful sauces. It's like crafting your own noodle masterpiece!

While there might not be a dedicated student discount, the reasonable prices ensure that your noodle cravings are satisfied without putting a dent in your budget.





★★★★ **PIANO B**

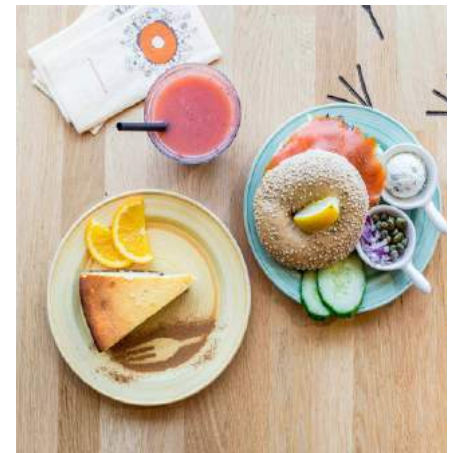
**€10-15**

Piano B is like our SBE student haven! Their Italian grub beats everything else in town, and the crew running the joint? Absolute gems! Flash your student ID, and voilà, you're gifted with a sweet 10% off. On those sun-soaked days, I'm all about snagging their pizzas and soaking up the good vibes in the SBE garden. It's the tastiest sunny day hack in Maastricht!

**BAGELS AND BEANS** ★★★

**€7-10**

It's the ultimate haven for bagel aficionados and coffee enthusiasts alike. Nestled in the heart of Maastricht, this place is a blend of cozy charm and bagel brilliance. While Bagels and Beans might not shout about student discounts from the rooftop, the prices won't leave your wallet feeling bereft. So, gather your study squad, snag a cozy corner, and embark on a bagel adventure that's bound to make your taste buds dance!



★★★★ **BURGERLIJK**

**€10-15**

Calling all burger enthusiasts to the gastronomic paradise that is Burgerlijk! Nestled in Maastricht, this joint is not just about burgers; it's a celebration of all things patty perfection. Now, the best part for students? Burgerlijk understands the student hustle. Not only are their prices friendly to the student budget, but flash your student ID, and you might just unlock a secret world of burger bliss with an additional discount. So, gather your burger brigade and embark on a flavor-packed journey at Burgerlijk!



**DE PREUVERIJ** ★★★

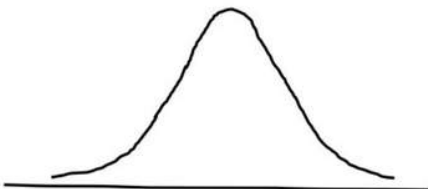
**€10-12**

You know Preuv as Vectum's bar, we're there every tuesday but did you know they have a lot of traditional Dutch food and also have amazing burgers and you can usually eat for around €10, so it's really worth it. Next vectum activity maybe we have dinner together at Preuv!



# A nerd's meme vault

When you pass the course with a 5.5



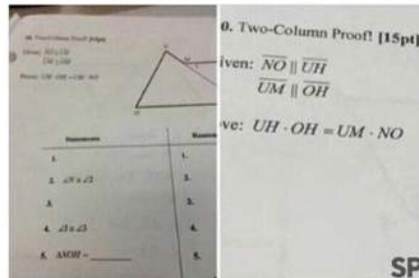
Normal Distribution



Paranormal Distribution

"Do you have any idea what you're doing?"

Me:



Give me real sandwich



I said real sandwich

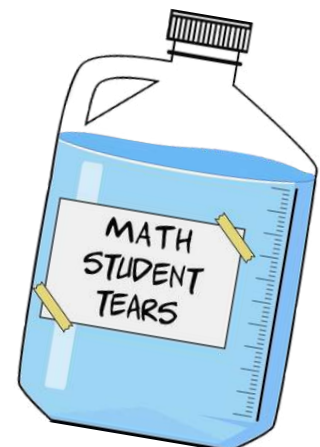
$g(x) \leq f(x) \leq h(x)$   
and also suppose that

$\lim_{x \rightarrow a} g(x) = \lim_{x \rightarrow a} h(x) = L.$   
Then  $\lim_{x \rightarrow a} f(x) = L.$

Perfect

SBE student: Im from Germany but I did a gap year in Nepal and feel very connected to the cultu-

Me:



# The KenKen Puzzle

It's not a crossword. It's not some extreme version of tic-tac-toe. So what is KENKEN and where did it come from? Simply put, it's a grid-based numerical puzzle that uses the basic math operations—addition, subtraction, multiplication, and division—while also challenging your logic and problem-solving skills.

## HOW TO PLAY

Your goal is to fill in the whole grid with numbers, making sure *no number is repeated in any row or column*. In a 7x7 KenKen puzzle, use the numbers 1-7.

The heavy-outlined areas are called “cages”. Top left corner of each cage has a “*target number*” and a math operation. The numbers you enter into a cage must combine (in any order) to produce the target number using the given math operation. A cage with just one square is a “*Freebie*”, just fill in the number you're given.

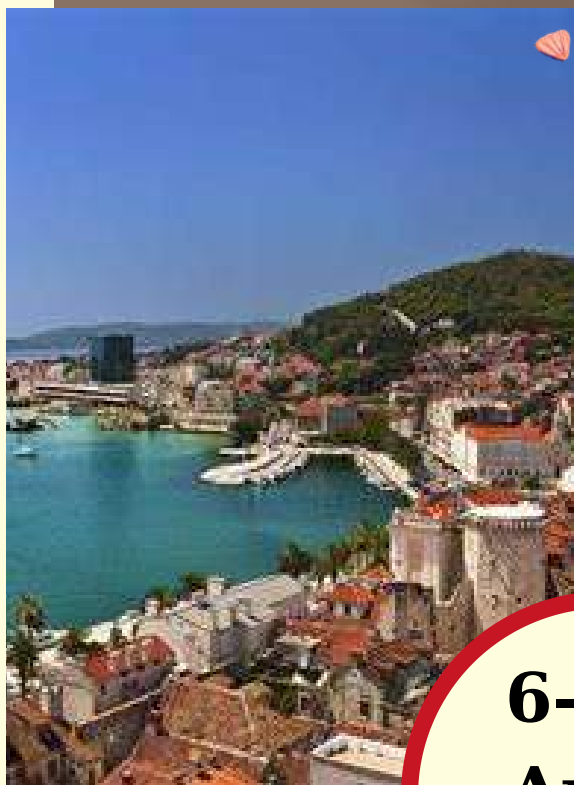
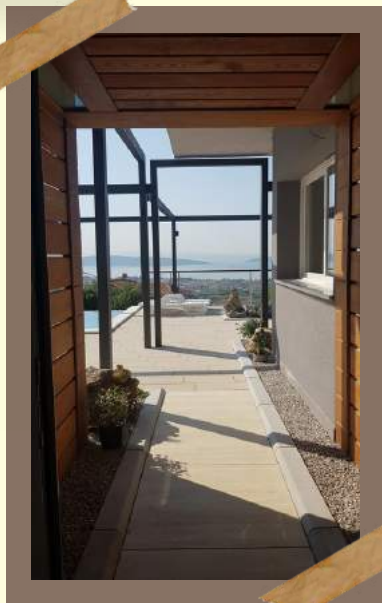
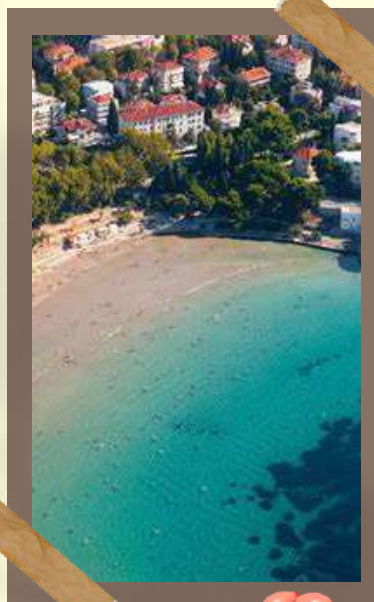
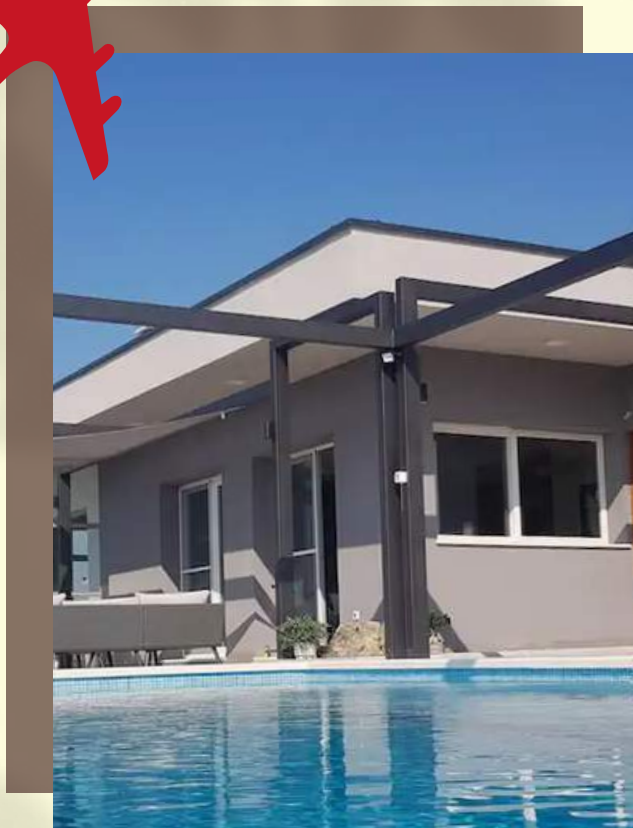
20×		4−	5−	14×		
13+	1−			9+	36×	
		3−				12+
15+			63×		6+	
3÷	13+		2÷			
	10+	3−		72×		2−
			8+			

Send in your solution to [secretary@vectum-maastricht.nl](mailto:secretary@vectum-maastricht.nl) or DM us on instagram ([vectum.maastricht](https://www.instagram.com/vectum.maastricht))

The first person to send in the correct solution will receive a little present from Vectum!



# LETS EXPLORE SPLIT TOGETHER



For around 400 euros including:

- Flight from Amsterdam to Split
- Beautiful AirBnB with swimming pool and jacuzzi, in the basement of the house there is a mini football field, table tennis, billiards, darts, gym on 160m2

**6-13  
April  
2024**