

JADS 5



What is data science?

The current state of affairs in data science and the JADS approach



"We are on a unique journey of discovery".

Jos van Hillegersberg

Even marriages of convenience can flourish



HIGHLIGHTS

Projects and stories from the JADS archives





Sharing knowledge and collaboration opportunities

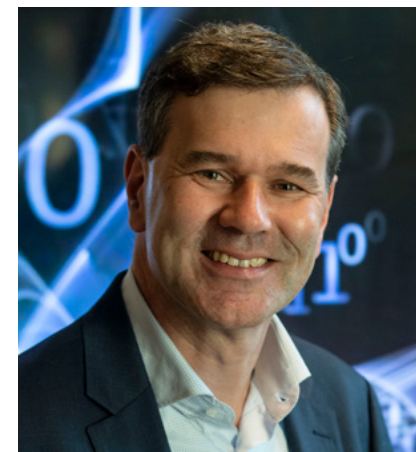
A powerful combination

The power of combination makes a successful collaboration. Of course we mean the combination of your organization and JADS. But also the combination of Data Science and Entrepreneurship. The combination of research and education. Plus, the combination of our two parent universities, TU/e and Tilburg University. And the combination of knowledge at the highest level that we can put into practice together.

JADS offers your organization various possibilities to connect with (new) talent and to increase knowledge within your own organization, through participation in education and/or participation in research. JADS has realized more than 700 collaborations with companies and external organizations since 2016. Want to know more about the ways we can collaborate with your organization?



FOREWORD



Jos van Hillegersberg

JADS 5th anniversary

The first JADS lustrum took place in June 2022. With numerous activities, the JADS community celebrated what has been built up in a short time. It was a good moment to look back on a dynamic period in which the dream of a data science institute became reality. This would never have been possible without the boundless energy and decisiveness of the four “founding parents”: the province of Brabant, the municipality of Den Bosch, Tilburg University and Eindhoven University of Technology. Behind these names, of course, are individuals who found each other and took many steps to realize JADS. They are featured in this magazine.

JADS has grown considerably in five years and now offers a broad portfolio of activities such as research, education, entrepreneurship and impact with data science. “We do cool stuff that matters, with data”. A slogan that nicely covers what drives the people at JADS. In this magazine, you will find examples of what JADS is proud of. We look back, but more importantly, we look ahead. Think of this magazine as a (renewed) introduction to JADS, and above all as an invitation to visit the Mariënborg. You are invited to become part of the JADS community and apply data science to the many challenges that call for smart data-driven solutions.

Jos van Hillegersberg
Academic Director JADS

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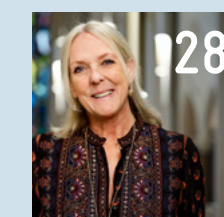
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JADS in Den Bosch faces a Golden Future

Interview with
Wim van de Donk,
Jos van Hillegersberg
and Robert-Jan Smits

Three governors of JADS look to the future full of enthusiasm and positivism. JADS appears to be a golden opportunity in training data science talent that companies have a serious need for. And this need will remain unchanged in the coming years.

The Master's Data Science in Business & Entrepreneurship and Executive Education programs can still grow. Unique is the project-based approach toward start-ups and the cross-fertilization in communities of students and companies. Application areas, such as crime & safety and agrifood, in relation to societal problems, have the potential to develop into unique top areas. Furthermore, globally, there is a need to increase brand awareness. A dialogue with an eye to the future.



Text Clemens van Diek Photo Bart van Overbeeke

Robert-Jan Smits, president of TU/e, one of the parent universities, praises the founders of JADS who saw the niche in the market very well at the time. "The joining of forces between Tilburg and Eindhoven produces a concept with fantastic application areas. Entrepreneurship with data offers enormous opportunities in education and research." A recent site visit confirms the added value of JADS. "We passed with flying colors. There is now a solid foundation for growth and further development of our executive education together with the business community. Plus, we have to make sure that the excellence gets even better. Yes, JADS is going to have a golden future."



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**Solid foundation
for growth
and further
development**

Robert-Jan Smits

”





New phase

Jos van Hillegersberg, Academic Director JADS adds: “We are very satisfied with what has already been achieved so far: the connection with companies that value us, and who provide real data coming from practice from which our students derive knowledge. We are entering a new phase. We will expand what has been established. It is difficult to predict exactly where we will be in five or ten years; we are on a unique journey of discovery.”

Wim van de Donk, Rector Magnificus of Tilburg University, notes that technology has been a driving force since the blacksmith and the water wheel. “Data science is creeping into every field now. It’s going on all over the world, and talent is needed everywhere. So you better invest up front in people who are thinking about application areas of technology. The competition is tough now, but we must dare to trust our own choices and keep working. The bread-and-butter (as in bottom line) is that you just have to struggle to build your own position.” **Wim** refers to a recent MIT report on the future of IT and data science, which once again outlines the limitless possibilities. “But that golden future doesn’t just happen by itself; you have to keep making it. It is extra vulnerable to develop something outside your own familiar university. You have to organize ownership well and perpetuate the legitimacy of JADS.”

Jos: “It is also not about an extra move in an algorithm or an even larger data set, but about the question where we can create value with this new technology, sustainably and ethically.”

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We are on a unique journey of discovery

Jos van Hillegersberg

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What is going to Den Bosch? Data science talent!

Unique in Den Bosch is also the educational approach. **Jos:** “We bring separate disciplines together in innovative cases and projects. That is a new interdisciplinary branch. Programs reinforce each other, in cohesion, they create added value. Therefore, no separate silos, but professional students who work together with Master students, a PhD researcher who is active in a company, small communities working together on a specific problem.”

And so JADS prepares young people for a responsible position in society, equipped with the latest knowledge about data science. **Robert-Jan:** “Talents we train immediately find a job, even when the economy is down. They make a meaningful contribution to society, in application areas such as digital & social entrepreneurship, crime & safety and nature & agrifood.”

Without domain expertise, such as econometrics or psychology in Tilburg and Eindhoven with its own technical spearheads, you can’t do much with data, **Wim** argues. “You have to organize complementarity. Our combination of domains, close to the ecosystem, is truly unique. This requires being reciprocal, like Brainport or in entrepreneurship, a growing field in Tilburg at the interface of behavior, data and services. I also see a fourth university core task here, Lifelong Learning, in which JADS occupies an interesting position.”

Global appeal

Although many companies know how to find their way to the technological oasis in Den Bosch, brand awareness could certainly still improve, especially because of JADS’s international ambitions.

Jos: “It is still too well-kept a secret that the city offers a highly regarded Master’s program in such a beautiful building. That is why we want to put Den Bosch even more on the map as a student city with a university education that offers golden opportunities for talent from all over the world. That’s our dream.”

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Increase brand awareness, globally

Wim van de Donk

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Robert-Jan hopes that, in ten years, students, companies and researchers will know how to find their way to Den Bosch. “It would be wonderful if a few great start-ups would recommend us by saying. ‘We are so successful because Den Bosch has provided us with the knowledge’.”

Wim concludes: “The combination of AI and data science will only become more radical. In my view, with the profile combination of Tilburg and Eindhoven, together with the dynamics within JADS, we are not yet at five percent of our potential power, intellectually and research-wise. I hope JADS, partly privately supported, is able to take care of itself and may become champion in one or two domains. I also hope we will operate even more strongly on the cross roads, after all, innovation is often at the cutting edge of themes in new combinations.”

In short, we cannot just sit back and relax after five years of pioneering. JADS continues to work, fight, laugh and wonder, under the motto:

We do cool stuff that matters with data.



What is data science?

Text Maartje Gorte Photos iStock

What is the JADS take on data science?

We are the Jheronimus Academy of Data Science. But what exactly is data science? It is the field that turns data into decision-making power, through statistics, algorithms, and “increasingly” the use of artificial intelligence and machine learning.

The state of the art in Data Science

Data science is developing rapidly. More data is available than ever, and algorithms have become faster and easier to use. 20 years ago, you needed a PhD degree to do complex analyses, but these days even hobbyists can configure neural networks. This maturity offers tremendous possibilities for entrepreneurs, organizations and governments. Currently, what the world needs is more people with data skills.

These technical developments also raise questions. How do we get the most out of data science, while keeping important safeguards? Digital technologies move fast. To protect ethics, privacy and justice, collaboration between lawmakers, ethicists and data scientists is critical.

JADS Research Units

Data Entrepreneurship



Ksenia Podoyntsina
Assistant Professor Data Entrepreneurship

“JADS is a community of researchers, students, and professionals who are interdisciplinary-oriented. They understand that data science is more than analyzing data, and that data engineering, analytics, decision-making, and business development have to align responsibly to get value from data.”

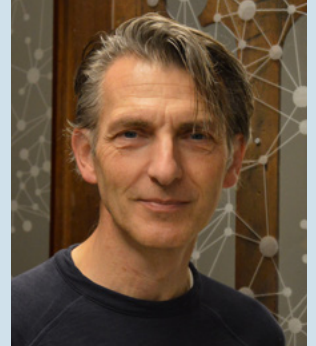
Data Governance



Willem-Jan van den Heuvel
Professor Information Systems

“JADS for me is home of making things happen and learning with my personal outlook on AI and data engineering as the fabric to do things smartly, bolstering scientific and societal impact. It is the breeding cradle of new scientific offspring that is well versed in tomorrow’s AI and data driven global face of our societies”

Data Analytics



Eric Postma
Professor Artificial Intelligence.

“JADS connects science and education to society through collaborations with companies and organizations. Students and researchers at JADS develop a unique skill set that is beneficial to the societal dissemination of scientific insights.”



Louis Vertegaal
member of JADS Management Team

“At JADS we do cool stuff that matters with data. Research at JADS stands on a strong base with its roots concerning societal aspects in Tilburg University and its roots concerning technological aspects in Eindhoven University of Technology. Over the years this unique combination has fueled several beautiful research programs involving researchers from Eindhoven and Tilburg as well. The Excellence of these research programs at JADS has been acknowledged by several research funding organisations like the EU and The Netherlands Organisation for Scientific Research (NWO). A strong demand for the unique research at JADS can be found in the leading science policy reports for the future. It can therefore be expected that JADS will play an important role in shaping the Digital Economy in the years to come”



Prof. dr. Ingrid Heynderickx
Dean department IE&IS TU/e and Chair of JADS Steering Committee

“By combining the assets of the two founding fathers JADS has created in Den Bosch a unique research and education offering in data and entrepreneurship”.

The future promises creativity

Compared to 10 years ago, the field of data science has made giant leaps. However, in another 10 years, we will look back and see this was just the beginning. User friendliness and affordability are usually the keys to mass adoption. People today are skeptical about upcoming data science technologies and artificial intelligence. But all technologies we now use daily – like WiFi and videoconferencing – were met with skepticism at first.

People spend more and more of their lives online, generating data that can help predict effects on a population scale. For instance, when thousands of people see a reminder to vote in the upcoming elections during an online event, it is easier to track how many of them take action – at least compared to when they see that reminder at the bus stop. This increase in data is going to unleash huge potential, inspire tremendous creativity, and help people in ways we can not imagine yet.

Making what you do matter at JADS

At JADS, our approach to data science is right in our slogan: we do cool stuff that matters, with data. We look beyond algorithm finetuning and technical optimization, and want to make real contributions in entrepreneurship, sustainability, and the major challenges in the world. For instance, we take inspiration from the UN's Sustainable Development Goals. We hope to do our part in using data science to reduce hunger, solve murders, support ecosystems, combat fraud and money laundering, and improve everything from education to hospital planning.



SAFEGUARD Lab (with Deloitte)

The objective of the SAFEGUARD lab is auditing of AI software by exploring, developing and validating novel auditing theories, tools, and methodologies. The aim is to monitor and audit whether AI applications adhere in terms of fairness (they have no bias), explainability, transparency (they are easy to explain), robustness and reliability (they deliver the same results under various execution environments), respect of privacy (they respect the GDPR), and safety and security (they have no vulnerabilities).

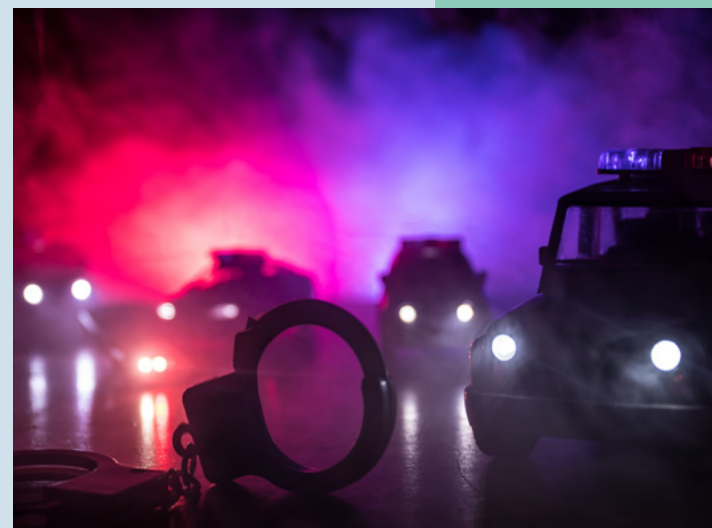
Responsible Media Lab (with UvA and DPG Media)

How can AI contribute to the functioning of the media along the entire production chain (sourcing, production, distribution, engagement), and even fundamentally change aspects of the media as we know it? The lab will explore the potential of AI-driven solutions for the media, their professional role, opportunities for new business models and new ways of engaging with users, while taking into account professional values and the emerging regulatory framework for AI. The lab seeks to develop AI-based methods and solutions that facilitate more diverse news offerings to readers, working alongside human journalists.



ILUSTRE Lab (with LaNubia)

ILUSTRE will be a living lab in the Caribbean with the objective to develop, implement and test AI innovations that will accelerate the use of clean energy and advance solutions in water treatment and wastewater recycling and purification. Alongside these sustainable development objectives, the innovation partners aim at establishing an education platform for AI and data science for the Caribbean region.



DATAXCHANGE ELSA Lab

In the vision of the ELSA lab DATAXCHANGE, the future of our society is determined by the way we deal with data. The vision: An inclusive and safe future-oriented society. To achieve this, it is necessary to create an infrastructure in which data can be shared, in a way that supports the core values of our Dutch democratic society. The fight against crime, more specifically that of subversive or undermining crime, will be an excellent application area for this.

Education at JADS

At JADS, we have the best-rated data science Master's program in the Netherlands, according to the 2022 National Student Survey, with the best connection to the labor market. This is not accidental, of course. Let's look at how we made our Data Science in Business and Entrepreneurship Master's program great.

The best way to learn to create value is to do it

"The heart of the program is challenge-based learning," says Ksenia Podoyntsina, Program Director of the JADS master DSBE. "72 of the 120 credits in the Master's program involve using your skills to generate real value, including the Master's thesis. Our courses are taught by lecturers with research or industry experience, which brings a real sense of excitement to the classes."

During their two years at JADS, Master's students work with organizations that really speak to them, whether a large multinational or a local non-profit organization. **Ksenia:** "This freedom of choice increases the drive and creativity students bring to projects, and often results in start-up ideas that JADS is happy to facilitate."

Teaching the complete perspective

The Master's degree program teaches students about the entire process of data-driven decision-making, which requires both the technical and the entrepreneurial sides. "This creates the basis for JADS's unique flavor of graduates," says Ksenia. "Our students find work as data engineers or data scientists. But also as entrepreneurs, consultants



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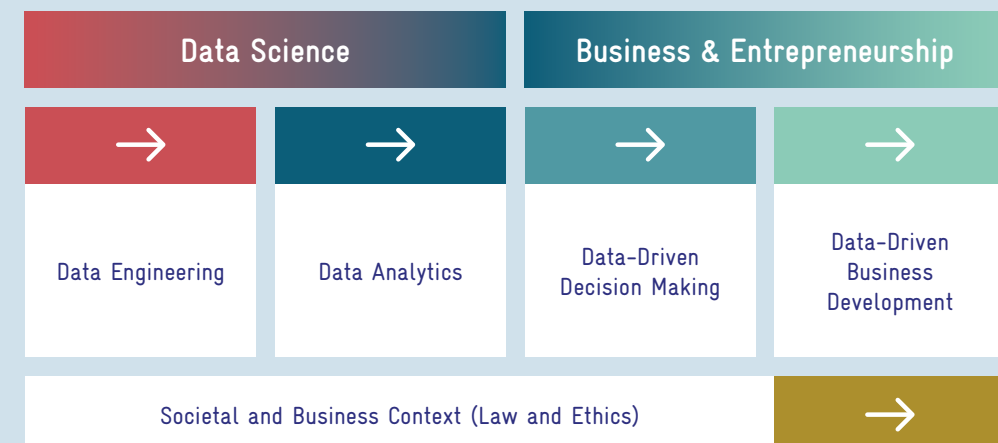
This creates the basis for JADS' unique flavor of graduates

Ksenia Podoyntsina

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and what we call intrapreneurs – people doing entrepreneurial projects within large organizations. Interestingly, our focus on practical, hands-on learning also attracts many prospective academics."

TURNING DATA INTO VALUE



Truly interdisciplinary from the ground up

“At JADS, we take interdisciplinarity very seriously,” says Jos van Hillegersberg, Academic Director. “We are open to students from many different Bachelor’s programs. Our courses are designed by research departments in that field, and all courses fit together. This provides a highly integrated program.” This way of working also highlights the strengths from JADS’s parent universities. Eindhoven University of Technology offers its renowned engineering research expertise. Tilburg University supplies in-depth knowledge about the legal, societal and business sectors.

A global perspective to solve global problems

JADS aims to be an international academy. Jos: “We invest in recruiting international students, international staff and international projects, and we have an extensive international network. We are facing global challenges, and we want to offer students this international perspective from the start.

At the same time, our small scale offers significant benefits and ties to the local community. To keep this balance, we are aiming for a 40% international enrollment – and we’re not far off, both in terms of staff and students.”

Ready for action

Together, these aspects result in a Master’s program that truly prepares students for their future careers. Jos: “The job market is excellent for our students. Because of the challenge-based approach, our students graduate with over a year of practical experience, and with a network of their own with interesting organizations.” Ksenia agrees: “Even as a recent graduate, you will be in a place where you can really help your organization make a difference through data.”

The job market is excellent for our students. Because of the challenge-based approach

Jos van Hillegersberg

Over the past 5 years, under the guidance of Geert-Jan Peters, JADS Professional Education has trained over 500 professionals. Ranging from short master classes teaching professionals about the opportunities Data Science & AI brings to organizations to extensive programs that train professionals to become Certified Lead Data Scientists.

Our participants learn not only from our top-notch professors, but also from each other by working on real-life cases. They learn practical data entrepreneurship, knowing the value that Big Data and analytics could bring into their daily practice, and mastering the skills to translate goals and challenges to data-science questions.

The biggest compliment is our former participants (alumni) returning to JADS frequently to make use of our ever growing Community and to never stop learning.

Chantal Stevels - JADS Professional Education



The JADS Engineering Doctorate (EngD) program in Data Science has educated over 80 data scientists in the past six years. The EngD Data Science program is a two-year salaried technological designer program. Trainees combine statistics, computer science, mathematics, and design theory with the business acumen to explore datasets, gather insights, visualize results, and communicate meaningful findings to stakeholders taking into consideration underlying ethical and legal aspects.

Our program is a forerunner in challenge-based learning. Trainees develop their designer skills by working in complex multidisciplinary projects from industry and government organizations. In our EngD program, trainees design their learning path within our educational scope. Our trainees have the opportunity to further develop their data scientist skills through in-house technical lectures, workshops and coaching on professional skills. As part of their personal development, our trainees spend considerable time following online technical lectures, hackathons, and data challenges with the industry.

Tiberiu Muntean

Program Director JADS EngD

Education is not only about learning new things. A great atmosphere, personal development and knowing what you want are just as important.

And JADS provides it all.

Elske Nijhof – Master student





” Moving to the Netherlands to study at JADS was one of the best decisions of my life. I had the opportunity to grow both personally and professionally and build a strong personal and professional network.

Agis Georgiou - Master alumnus and chair of the Alumni Association AI Lumni

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The infamous nature of data makes the science and engineering around a compelling story-telling exercise... this is what JADS is, a foundry of stories - we told those stories for 5 years now, industrial to European ones, and it was a good ride!

Damian Andrew Tamburri - Ph.D. Associate Professor Data Governance at JADS

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During my EngD, JADS provided me with a dynamic environment to develop myself both personally and professionally. The EngD program and the university as a whole were a perfect fit for me. I still enjoy coming back to JADS to join events and guide current students.

Lennart Damen - EngD alumnus and Boardmember of Alumni Association AI Lumni

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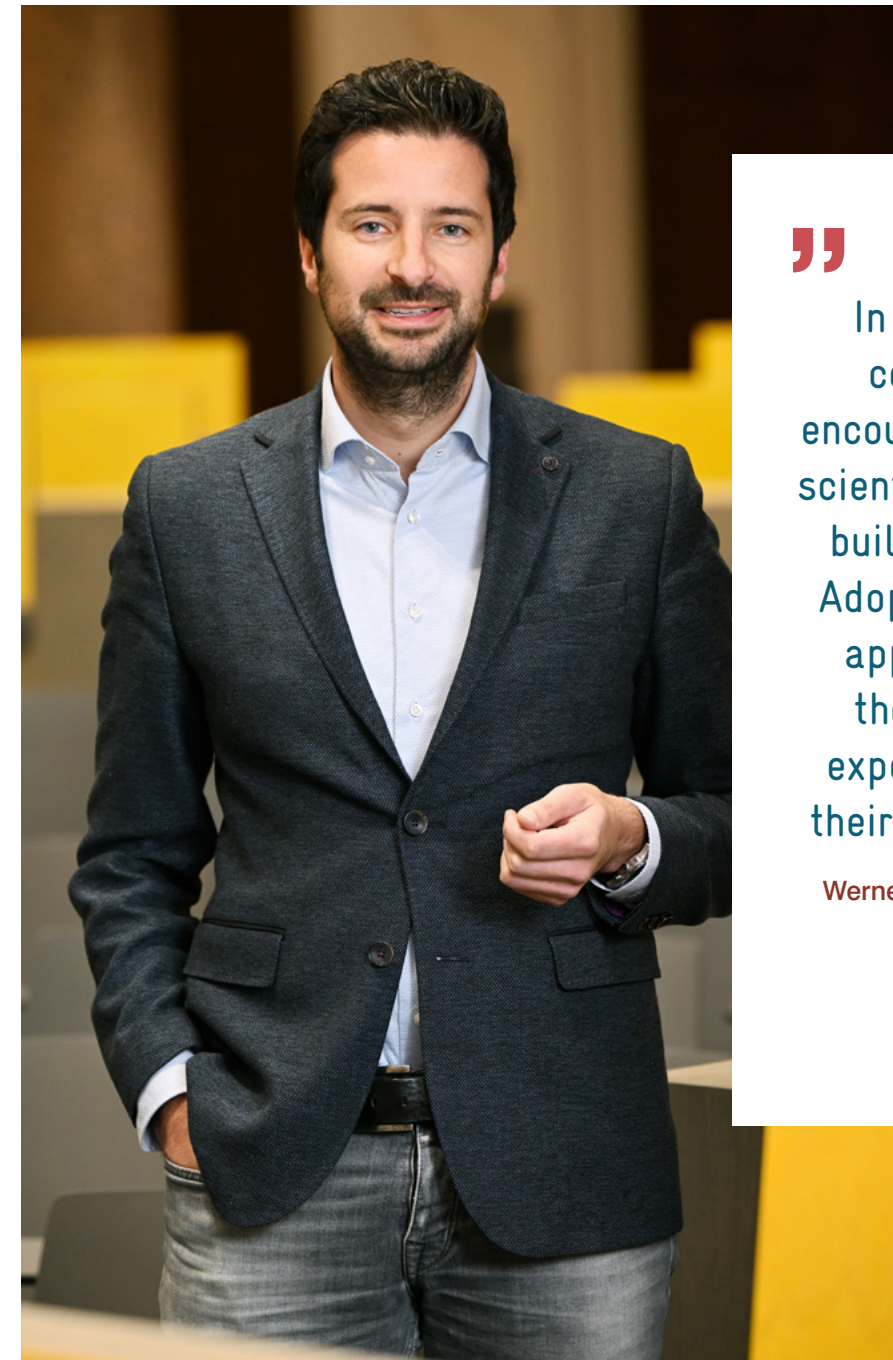


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Studying at JADS kickstarted my entrepreneurial journey. I met my co-founders, learned how to properly validate a business idea, and acquired the skills to build a product. All of those proved essential to the successful launch of Bluetick!

Koen Aarns - Master alumnus and founder of Bluetick

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In my entrepreneurship courses, students are encouraged to use the latest scientific evidence on how to build successful startups. Adopting a quasi-scientific approach and collecting their own data through experimentation increases their probability of success.

Werner Liebrechts - Assistant Professor of Entrepreneurship at JADS

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Even marriages of convenience can flourish

Text Pieter Siebers Photos Marjo van de Peppel

It is a marvellous opening, on a wintry afternoon in the festively lit chapel of the former Mariënborg convent, overlooking the small river Dommel meandering through 's-Hertogenbosch. The day is Thursday, December 1, 2016, and we are witnessing a gathering where hundreds of guests, including Queen Máxima, are present at the official launch of JADS. The institute is named after the medieval painter Hieronymus Bosch, one of the most famous sons of the provincial capital.

The opening in the chapel - now serving as an auditorium - is in many ways a metaphor for the genesis of JADS. The four main players, until that moment, operated almost independently of each other: Tilburg University, Eindhoven University of Technology, the Province of Noord-Brabant and the city of 's-Hertogenbosch. That the universities initially had little in common probably had less to do with the perceived antagonism between the alpha and gamma sciences of Tilburg and the technical sciences of Eindhoven than with the unfortunate constellation under which they first became intimately involved with each other. In the 1960s, both were pushing for a medical faculty (which eventually went to Maastricht) making the institutions unwitting adversaries. All while both Tilburg University (founded in 1927) and Eindhoven University (founded in 1957) were still in a phase of construction.

In order not to be completely deprived of medical-clinical higher education in Brabant, in October 1970 the Executive Boards of the then KHT and TH signed

Turning point

At the beginning of the 21st century, there is a turning point, when the concept of big data begins to advance, also in the scientific world. It may be a diffuse concept, but it is clear that technological, economic, legal and also ethical aspects play a major role. And then the contacts that exist at faculty level turn out to be valuable. There are discussions about data science between the Executive Board of the TU/e and the Faculty of Mathematics and Computer Science. Dean Emile Aarts and computer science professor Wil van der Aalst have ambitious but costly plans. So much so that several parties are required. In Tilburg, the duo finds a willing ear with the Deans Corien Prins (Law) and Lex Meijdam (Economics and Business Studies). In consultation, a plan is developed for three data science centers, one in Eindhoven, one in Tilburg and one in 's-Hertogenbosch. All three will be there, with the location in 's-Hertogenbosch raising the most questions.

In the front row at the opening of JADS are not only the people from the very beginning, such as TU/e foreman Jan Mengelers, Emile Aarts (at that moment Rector

Magnificus in Tilburg), as well as the first management team of JADS: Arjan van den Born, Angélique Penners en Willem-Jan van den Heuvel but also Ton Rombouts, then mayor of 's-Hertogenbosch. He can look back on an extraordinarily successful (more than 400,000 visitors) retrospective exhibition of Jheronymus Bosch, held earlier that year in the Noordbrabants Museum. The key to this success was the collaboration with

scientists, without which the provincial capital would not have stood a chance for such a prestigious project. By supporting JADS - the municipality bought and renovated Mariënborg - 's-Hertogenbosch is taking the first steps on the path of a university city. Also in the front row are Wim van de Donk and Bert Pauli, then King's Commissioner and Provincial Commissioner respectively.



^ The Netherlands saxophone octet plays several passages from Canto Ostinato, composed by Dutch composer Simeon ten Holt, during the opening ceremony of JADS

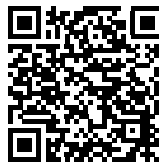
a cooperation agreement that would form the basis for SOBU, the Samenwerkings Orgaan Brabantse Universiteiten. It got the wind in 1986, with a budget of 1.5 million guilders intended to "initiate and coordinate" the cooperation, but it did not come to fruition.

Preparation costs were paid from the innovation budget of the province with the prospect of a Brabant ecosystem in the field of data science. Under the direction of Pauli, a plan was made in which 's-Hertogenbosch was positioned as the data capital, in the heart of a province full of data activity. The old idea of a university in Brabant was abandoned, but not the idea that collaboration between two different universities can make a distinctive difference in a new field such as data science.

Feat

JADS may be called a feat. Where the armed forces in the run-up were formed by pioneering, inspired scientists with a talent for tenacity, administrators who knew how to connect vistas with pragmatics and an army of people behind the scenes who knew how to bridge contradictions. Questions are sometimes asked about the costs, about the relationship between science and business, but these do not detract from the fact that a coalition has been formed in the old convent. A marriage of convenience that is still developing, in which love does not always flicker, but where the often advocated cooperation between alpha, gamma and science and technology has managed to wrestle itself from the proverbial laws and practical objections.

[Read more >](#)



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What failed 3 times before, succeeded in 2016: 's-Hertogenbosch got its university. Since then, students have been trained at JADS to become data entrepreneurs who contribute to a better world. Zero hunger, no poverty, a safe and sustainable society.

Ton Rombouts - Former Mayor of the Municipality of 's-Hertogenbosch

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JADS is a unique 21st century start-up university that addresses global challenges by combining regional assets in the field of data science and entrepreneurship.

Emile Aarts - Former rector of Tilburg University

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The driving vision was: “Data is the oil of the twenty-first century”. A new field of science, two universities, a historic city and an appealing location. The dream come true is called JADS and is a magnet for future generations. It gives a proud feeling!

Jan Mengelers - Former president of TU/e

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Further expanding the strength of the innovative Brabant economy, and prepare it for the digitalization era!” That was our great ambition! To this end, 2 complementary universities joined forces with the municipality of 's-Hertogenbosch and the province of Noord-Brabant. A unique, meaningful combination!

Bert Pauli - Former Regional Minister for Economic and International Affairs, Province of Noord-Brabant

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Marienburg, the convent in Den Bosch, is situated between two rivers: the Dieze and the Dommel. It is no longer our Motherhouse, the center of the Sisters of JMJ. Here we entered religious life, and in this building we prepared ourselves for work in Holland and in other countries. With pain in our hearts we had to give up this house on April 1, 2016. But we were glad that the future destination was again education..

Sister Laetitia - Provincial Superior of the Society of Jesus, Mary and Joseph

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Marienburg 1899 - 2017 - 2135 Our ambition was to honor en set forth the heritage and life's work of the sisters JMJ, their Marienburg. 118 years of faith, hope and love -with education as a common thread-, to grow and flourish again for 118 years; a new century of education and research, therefore hope, faith and love with the Marienburg as the inspiring beating heart.

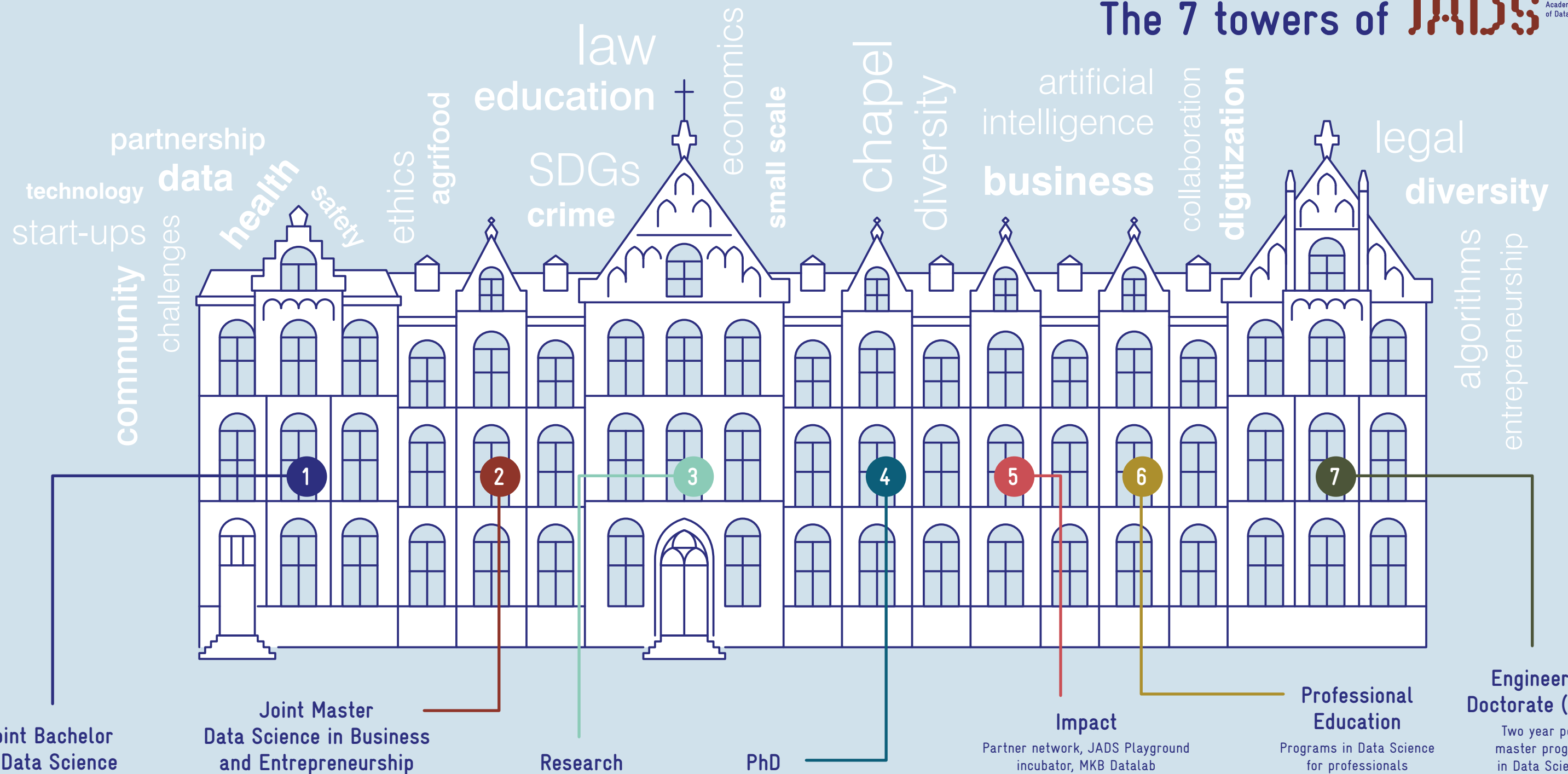
Wim Boers - Developer/founder Marienburg Campus

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The 7 towers of JADS

Jheronimus
Academy
of Data Science



Bachelor students

160

Master students

160

Master alumni

253

66
ECTS

Based on real life assignments in curriculum



Average score in NSE
(Nationale Studenten Enquete)

4,2*

*maximum of 5

Research disciplines

- Data Engineering
- Data Analytics
- Data Entrepreneurship

Research Labs

- ELSA lab DataXchange
- SAFEGUARD (with Deloitte)
- ILUSTRE (with LaNubia)
- Responsible Media Lab (with UvA and DPG Media)

PhDs to date

17



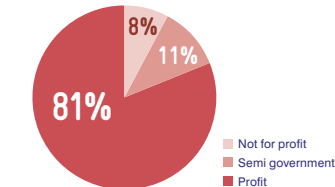
Partnerships

700+

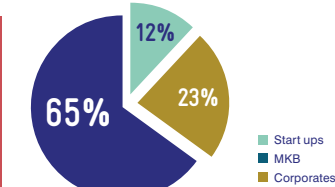
Startups founded

27

Total distribution of partners



Profit partners uitgesplitst



IDSFF • Ladies of Data • Data Science Experience Days • Data Week NL

Events to date

750+

PE students

66

PE alumni

365

Specialisations

- Healthcare
- Government
- Industry

EngD trainees

32

EngD alumni

76

The power of the JADS community

Text Clemens van Diek Photos Bart van Overbeeke

JADS ambition goes beyond being an academic leader in the field of data science. Our aim is to play a key role in building a new ecosystem and accelerate the data-driven economy in the Netherlands. We do this by connecting data science and entrepreneurship in many ways. From educating students and professionals to organizing events, to accelerating data-driven start-ups.

JADS has a close-knit community of students, professionals, researchers and academics who do cool stuff that matters with data. This community is what defines JADS, and it is built by people who all share a passion for data science and a heart for JADS. Here you find the personal accounts of many of these people, and the disciplines that they represent.



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For Unilever, our partnership with JADS is a great platform to explore novel approaches in Data Science addressing the key challenges towards our vision of designing food products in-silico.”

Unilever

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DPD is a proud partner of JADS and is working every day to become better, greener, and more data driven. DPD is Europe's largest crossborder parcel network where data is key.

DPD

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We are an association that focusses on improving social cohesion, career orientation and education for JADS students. For the past 5 years, JADS has been hosting the Data Science student community for the Data Science in Business & Entrepreneurship students. Together, we are able to organize social activities, such as an introduction week for the new Master'd students and weekly drinks, which creates a close community in Den Bosch.

D.S.A. Pattern

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During my time at JADS, I started a company, made new friends, found business partners, and created an invaluable network of like-minded people that will last a lifetime. All whilst learning to harness the power of data science.

Koen de Raad - Master alumnus and founder of Eyedle

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As PhD candidates, we are only a small part of the entire JADS community. But we want to make this part count! That's why we initiated a PhD Board organizing fun drinks and educational events that support our research.

Naomi Moonen - mater alumna and phd student

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We are very grateful to the JADS community for the collaboration for our events! Without the foundation laid by JADS and the efforts still being put in, our events would not be what they are today. On to many more successes!

Data Science Days

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Starting as one of the first PhD researchers at JADS, I've witnessed it grow from one corner of the building to an entire campus. No matter the size, there was always room for new initiatives, such as the Ladies of Data event, which was held in our beautiful chapel.

Frederique van Leeuwen - PhD researcher

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JADS is a top-tier academic partner for ASML, offering the right mix of scientific and business knowledge in their programs. A mixture of interns, Engineering Doctorates and knowledge sharing sessions offer ASML access to talent and the latest academic knowledge!

Diederick Edel - PE alumnus and Product Owner at ASML

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JADS is an excellent university that combines both data science and entrepreneurship. While doing our studies, we had assignments that focused on real-life consultancy problems. This was the start of our own data science and engineering company Quantile.”

Quantile - startup

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Liesbeth Leijssen: Everything at JADS breathes data science and entrepreneurship

Text Clemens van Diek Photos Bart van Overbeeke

JADS' unique curriculum, its vibrant community and successful MKB Datalab

The labor market is squeaking and creaking. There is a huge shortage of data specialists, along with almost unlimited technological opportunities. How does JADS respond to this and the pressure from its partners? How is JADS stimulating and facilitating entrepreneurship? And is its own brand strong enough to meet the challenges? Interview with Liesbeth Leijssen, director of business and member of the JADS Management Team: "I feel the dilemmas and the struggle within companies that knock on our door." And inspiring quotes from leading staff and partners in addition to cases that characterize the uniqueness of JADS.

Liesbeth Leijssen: "We started as a new kind of university, where a thousand flowers could bloom. JADS is a place where people are given the freedom to experiment with all kinds of innovative approaches that contribute to our brand promise 'We do cool stuff that matters, with data'. I sometimes compare JADS to the small medieval universities with their major impact on the environment. That's how we work as well. Everything at JADS breathes data science and revolves around entrepreneurial learning, community and building an ecosystem."

JADS is now moving from the startup phase to a mature phase. The parent universities can let go of the child more and more. But their expertise is still needed. Moreover, **Liesbeth suggests**, "JADS is still a relatively unknown brand, not yet as well known as the two parent brands. In order to remain competitive, JADS has to execute its Master's recruitment in close relationship with Tilburg University and TU/e, with JADS Den Bosch as the location."

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Today businesses
want a say in how
their employees
should be trained

Liesbeth Leijssen

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Society will need thousands of people skilled in digital technologies in the coming years. The demand for talent and knowledge has increased extremely, also according to a survey conducted by JADS. **Liesbeth:** "Today businesses want a say in how their employees should be trained now the labor shortage is so severe. They don't want to wait two years for someone to graduate from our Engineering Doctorate program. So we have to adjust our way of working to that."

Liesbeth: "We maintain a portfolio of more than 2,000 contacts with more than 300 partners. We actively collaborate with these partners in numerous projects and events, from (professional) education to strategic research projects, from being part of our startup incubator up to the MKB-Datalab. MKB stands for small and medium-sized enterprises, SME)"

Looking at how JADS
implements entrepreneurship,
three elements stand out:

- a cross-over curriculum with the startup Playground,
- a vibrant community network of (former) students, scientists and business partners, and
- the MKB Datalab

Crossover Curriculum

Liesbeth: "Our DNA contains the best of Tilburg and Eindhoven. We have a crossover curriculum with crossover subjects, not just about data engineering but also about business development, ethics and privacy aspects. We have developed a whole new range of propositions. And in the active Playground, led by Jonie Oostveen, students discuss the ins and outs in setting up their own startup."

In recent years, ambitious students have started very successful businesses. **Liesbeth:** "And, I think it's nice and distinctive that they all want to play a meaningful role in society, in an ethical, sustainable and caring sense."



Community

From the start, a constant stream of organizations spontaneously crossed the monastery threshold to be part of the JADS community. **Liesbeth:** "What keeps inspiring me is JADS's intrinsic culture of an open community that fosters change and innovation. Everything here revolves around the community, small-scale project-based and challenge-based education. An entrepreneurial student at JADS values our 'Hogwarts-approach', in which entrepreneurs, partners, talent and scientists find each other. This small scale community concept must be safeguarded in the future."

"The convent building is a wonderful setting for our concept, full of hot spots, small spaces and study workstations. In four buildings on campus data-driven businesses are housed; they prefer to be physically close to JADS. Hybrid working is not so important here, actually an impoverishment within our community-concept. Still, we are well equipped for digital education and have our own studio. JADS has so much to offer. I experience that every day when I walk through the corridors with guests, and talk passionately about JADS, inspiring them. No, I never regretted my move to JADS."

MKB Datalab

Most companies want to know what to do with their data. When such a request comes in, the impact team is immediately ready to start and make a plan, together with scientists and the Playground. For example, a hospital with many logistics data asked in what way their data could be used smarter, so that doctors, the outpatient clinic or the nursing department can be set up smarter. **Liesbeth:** "In such cases we want to know, what is the exact problem? What is the low hanging fruit? How can we build a good relationship and which JADS events fit in? **Liesbeth:** "Getting everything into a sustainable collaboration is a sport. The case can then be picked up in professional education, by a scientist or in the MKB Datalab."

”

What keeps inspiring me is
JADS' intrinsic culture of an
open community

Liesbeth Leijssen

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” I hope to see
some impactful
startups coming out
of the Playground

Jonie Oostveen

”



Case: Suspicious transactions at Van Lanschot Bankiers

In the Engineering Doctorate program trainees join an organization for a year to devise a workable solution to a problem in which data science can play a decisive role. An example of such a problem is cybercrime in the banking world.

At Van **Lanschot Bankiers**, trainee **Pallabi Sengupta**, researched how money laundering and suspicious transactions can be traced from transaction data, in collaboration with the Public Prosecution Service. How can technology be used to better grasp and understand money laundering, suspicious transactions, networks and relationships. The case was very successful.

Jonie Oostveen, manager of the startup Playground incubator at JADS, helps startups and discusses their ideas and problems. Every day is different, sometimes he works from Eindhoven or Tilburg, for external meetings. And if he is not talking to startup students, there are partners with whom he sits around the table to improve the startup ecosystem in the Den Bosch region or the province of North-Brabant.

Jonie: "It's great to work with startup students. They are smart, eager and learn fast. It's great to see the progress they make in only a short period of time. I hope to see some impactful start-ups coming out of the Playground incubator that can really help with the big transitions we are going through. And if I can help these startups with my experience, so they don't make the mistakes I made, I'd be really satisfied!"



Noëlle Cicilia (Brush AI):

JADS has a very tight community



The startup Brush AI wants to achieve a larger awareness and focus on responsible data science. Data science applications can have large consequences, and when they are not designed in a careful manner they can be biased in a dangerous way. Brush AI wants to create a low-code/no-code tool that allows business to make use of their data in a responsible manner without needing data science knowledge.

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You are constantly surrounded by inspiring entrepreneurs, so it is very easy to start something yourself too

Noëlle Cicilia

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Noëlle Cicilia, Alumna of the JADS Master

program: “I think it is mainly because of JADS that I started my startup Brush AI. Entrepreneurship is very much encouraged at JADS. I have always wanted to become an entrepreneur, but I really think that being in the JADS environment was the last push I needed. You are constantly surrounded by inspiring entrepreneurs, so it is very easy to start something yourself too!”

“Currently, Brush AI has an office within JADS, so we’ll be around for a while. I do really hope that we as Brush AI can keep on closely collaborating with JADS, that would be a perfect way for us to give back to the community that we really benefited from!” “When I look back at my studies at JADS, the one word to describe it is ‘gezellig’ (cozy). JADS has a very tight community. When I first started my Master’s studies here, it was such a big contrast compared to the community at a way larger and less personal university, where I did my Bachelor’s. (Teaching) staff is super approachable and whenever you have questions or concerns, there is always someone to help out!”

Case: Better personnel planning based on weather expectations

For several years Bakery & Lunchroom Royal in Den Bosch had been working with a system in which all transactions are stored. Based on these data over the past five years, students from the MKB Datalab worked out a professional data model that predicts the influence of the weather conditions on turnover and personnel planning. This way, the bakery could achieve an optimal personnel planning to realize cost reductions. Based on data, a form was created. Filling in the weather forecast (temperature, sun and rainfall) for the next 3 days, the form returns an estimate of the turnover. Royal was now able to schedule the optimal amount of staff. A surprising finding was that up until a temperature of 25 degrees, turnover went up, but above that temperature turnover went down. Apparently, people find other activities more attractive when the weather gets too hot.



Sven van Egmond (DPG Media):

JADS is a hidden gem

After finishing, with honors, the Data Expert program at JADS, Sven van Egmond started in a new position as Data Lead at DPG Media and worked on the roll-out and valuation of DPG network. This involved harmonization of data infrastructure as well as a strategy on the optimization of network effects. The professional education at JADS made it possible to grow into his current job, Head of Data at DPG as of August 2022.

DPG Media employs a wide range of data specialists that work on use cases for marketing, advertising and editorial insights. Sven: “We are constantly on the lookout for knowledge and talented people. This is the primary reason we invest in our relationship with JADS. In addition to the sponsorship of two PhD programs, DPG Media supports with datasets and guest lectures.”

“The JADS formula, the mix of technology (TU/e) and economics (Tilburg University), is unique in the world, I think. However, JADS is still too modest. Their beautiful story is a hidden gem.” And: “The need for a well-functioning democracy has never been more important. Reliable information and independent media are crucial. For me, at the end of the day, that’s what makes my work at DPG Media meaningful.”

”

We are constantly on the look-out for knowledge and talented people

Sven van Egmond

”

Frits en Koen de Raad:

Data discussions at the dinner table

Frits de Raad and his son **Koen** both studied at JADS. Frits participated in a professional education program, Koen did the Master Data Science and Entrepreneurship.

Frits, founder of Data Council, experienced the struggle with data in previous jobs. During the Data Expert Program his passion grew to put new data technology into practice. This JADS experience made him decide to start his own business, help other companies to apply the possibilities of data. He is now affiliated with JADS as a practitioner as well, training professionals and supervising participants in the professional education program.

Frits: "Data Counsel works closely with the TU/e and Tilburg University, which are united in JADS and with whom we have a partnership. This guarantees high quality and access to the latest knowledge and techniques for our clients."

Koen: "Always make sure to validate your assumptions in a thorough way. This is something that is emphasized during the Master

courses but also during the machine learning-related courses." At the dinner table father and son regularly discuss data science techniques and their implications. "These discussions tend to be completely incomprehensible and boring for others. But what can you expect, both of us share a passion for data science."



Maaïke Blok (MKB Datalab):

On a scale up to ten in the evaluation, we get back an eight or nine.

Maaïke Blok, JADS alumna, completed her Master's degree and now is working at the JADS MKB Datalab. And currently, along with Matthijs Bookelmann, leads the four-member team there. Activities include the intake of SME requests and their clear demarcation, writing the final project proposal, recruiting Master students who will carry out the implementation, the final delivery and the administration involved in the whole process.

"I do not have a 9-to-5 job. I like to switch quickly between different tasks and love to put out fires. I have a very instructive but also responsible job, in

which I want to grow even further. I really enjoy the work and enjoy the companies' successful results. A government subsidy scheme is being worked on to roll out the concept at other universities as well." For small companies, the digital transition is difficult but necessary. They often lack the right technical knowledge to create added value with their own data, for themselves and for their customers. "We help MKBs determine the first step towards a more data-driven way of working, so they can keep up with developments and become more future-proof."

”

We help MKBs determine the step towards a more data-driven way of working

Maaïke Blok

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"Businesses often want a lot, so it is important to define their questions well. Our Master's students carry out their project proposals independently in their own companies, which they register with the Chamber of Commerce. They spend an average of one day a week doing this as a paid side job. They are responsible for the implementation, which falls outside the curriculum." Some 250 projects have now been carried out, involving 135 MKBs. "This means that half of the businesses come back and were satisfied apparently. On a scale up to 10 in the evaluation, we get back an 8 or 9."

✓ Team MKB Datalab: Maaïke Blok, Koen Franken, Fabian Kok, Matthijs Bookelmann



2016: Grand opening of JADS

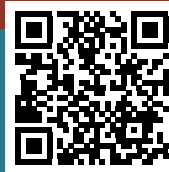
On December 1, 2016, her Majesty Queen Maxima officially opened the Jheronimus Academy of Data Science, accompanied by then mayor of the city of 's-Hertogenbosch, Ton Rombouts.



© Foto: Marjo van de Peppel

December 1 2016

Watch the video of the grand opening >



2017



where data science means business

Read more about the collaboration >



Cool stuff that matters, with data

2017: Founding partnership BrandLoyalty

The leading marketing company BrandLoyalty was the first company to subscribe to the JADS vision of bridging the gap between research in data science and applying this knowledge in practice. Later many more business partners followed this example.

2017: First Career Perspective Day

To provide information about the options data science professionals have in their bright futures, JADS organizes its Career Perspective Day (later: Data Science Days). The first edition was successfully launched on May 19, 2017.

Watch the aftermovie >



May 19 2017



Wildlife Hackathon

July 7 2017



How can we protect rhinos against poachers using big data? This was the theme of the very first Wildlife Hackathon organized by JADS on July 7, 2017. The winning team got to visit the Welgevonden resort for a real-life safari!

Read more about the hackathon >



2017

2017 AND ONWARDS: BRINGING DATA SCIENCE TO LIFE FOR KIDS

Through events like the Summer School and the JINC event, JADS makes data science tangible and accessible for kids aged 9-12.

Check out the Summer School 2019 aftermovie >





Januari 12 2018

2018: First academic ceremony

One of the traditional happenings at a university are the academic ceremonies at which the professors get together to celebrate an important event. On January 12, 2018, it was the first time that an official cortège set foot in the chapel of Mariënborg at the inaugural speech of Prof. Maurits Kaptein.

Read more about
Maurits Kaptein >



2017 2018

2017/2018: Graduation first JADS alumni

In 2017 & 2018, we celebrated the first graduates of the Master, Professional Programs and PDEng. "My LinkedIn is flooded with job offers. Data Science is booming!" according to Diederik Pondman, one of the Master graduates.

Read more
and watch
the Omroep
Brabant
video >



Music x Data

2018

Martijn Willemsen shares
his musical memories >



In the series of innovative events, music and data, for example, generated from the audience's Spotify profiles, shape a unique, personalized experience.



2019

2019: VISOR at Paaspop

How do you improve safety, security and crowd control using data science? JADS students performed experiments at Paaspop festival using data science in combination with modern technology such as smart glasses and drones.

Watch the VISOR video >



2020



2020: Bluetick raises pre-seed funding

The JADS Playground supports startups from idea to launch and everything in between. In 2020, Bluetick, a startup that makes finding and searching through legal documents faster and more intuitive, organized a pre-seed funding round, which became one of the most successful Playground startups to date.

Read the news
release >



2020: First edition Ladies of Data

Ladies of Data is an annual JADS event that aims to bring diversity into the Data Science and AI community by providing female role models and discuss cool topics relevant for the broader data science community.

Read the interview with Ksenia Podoyntsina about Ladies of Data >



2020

2021

2021: Pandemic proof online selection week for EngD

The EngD program Data Science at JADS qualifies its students to become top-level professionals. The Data Challenge Week, the selection week for EngD Trainees, is a pressure cooker week full of hard work, intensive projects and new friendships. How do you offer an event like this online due to a global pandemic?

Read about the DCW pandemic edition >



2021: Graduation event in times of COVID

On September 11, 2021, 109 JADS graduates were finally able to celebrate their graduation with their fellow students and loved ones. Due to COVID-19, the graduation ceremonies were postponed multiple times, but now, the young talents finally received the celebration they deserved.

Read the news release >



2021: JADS **mkb**datalab celebrates 100th partner!

Set up in 2018, MKB Datalab's mission is to bridge the gap between developments in data science and the needs and wishes of the MKB, by connecting data science students to businesses. In 2021, they reached an important milestone: 100 partners.

< Read about the 100th MKB partner



2021

2022

2022: JADS 5th anniversary

Tuesday June 14th we invited our community to come to our campus and celebrate our first five years with us. We welcomed over 250 visitors at our community event!

Check out the lustrum aftermovie >



2021



JADS Podcast

What is an algorithm? How does the technology behind Netflix work? What can data do for me? The JADS Data Dates podcast makes it tangible how data science touches everyone's life.

Read more and listen here >



”

An initiative like JADS, where young talented people are trained and educated, is exactly what we need right now.

Prince Constantijn
of the Netherlands

”

In the era of artificial intelligence, we are in desperate need of more talent and more highly educated people in this space. Healthcare, food production, waste reduction, innovation, all of these domains are driven by data and AI. Data science does not stand on its own; it's a combination of efforts. We need data scientists in science, we need them in business and we need them as entrepreneurs - and we see a big rise in AI driven companies. So an initiative like JADS, where young talented people are trained and educated, is exactly what we need right now.

I personally see Data Science as an essential part of a company's talent pool. No matter what size company you run, you need to have a plan with your data and make it work: how you gather data, how you store it, how you analyze it and for what purpose. Data science is not just finding the needle in the haystack, but it is about asking the right questions and making the right decisions.

A powerful asset of JADS is the combination of Tilburg University's strong economics side and the Eindhoven University of Technology's technical side. Through this interdisciplinarity, we can understand the impact, opportunities and risks of data; both at a systemic level and at a business level.

But we need to be careful; there is also a lot of harm that can be done with data and AI. So please, as you are building innovative solutions, also consider the ethics, making sure that AI stays human centric. And you as teachers need to keep learning too. If you can continue to be innovative, making sure that students also are part of shaping the curriculum, and that the faculty also keeps reinventing themselves - really important in a space that is as fast moving as yours - I see a bright future for JADS and wish you the best of luck in the years to come.

Prince Constantijn of the Netherlands



Photo © RVD - Jeroen van der Meyde



Colofon

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Educating the next generation of data scientists

JADS offers data science programs at undergraduate, graduate and post-graduate level. Parallel in these programs is the aim to develop so-called 'T-Shaped' data scientists and researchers, with strong skills and experience in one discipline and an essential understanding of many others.

Master

This Master program equips students with the skills you need in order to use data science to develop innovative, value-adding and sustainable activities for all sorts of businesses, from large, established corporations to budding start-ups.



< Read more about the master

Professional Education

At JADS we train you to be a T-shaped Professional. You will have both breadth in how to collaborate and innovate across disciplines as well as depth in specific areas of expertise.



< Read more about professional education

EngD program Data Science

This 2-year post master qualifies its students to become top-level professionals, who are able to help industry and business with their innovative data science solutions. They aim for a career in a big data environment that truly leverages their academic experience and talents in the fast growing in-demand field of data science.



< Read more about the EngD program