

COLOGNE

START, ACT, DISCOVER



OUR MAN IN SPACE

Alexander Gerst's space mission has a very down-to-earth connection to the cathedral city.

THE CASE FOR THE NETWORK

RESEARCHER Michael Hüther on Cologne as a business location

HOTSPOT FOR THE GAMING INDUSTRY

COLOGNE GAME LAB BOSS Odile Limpach is playing big games

THE ROAD TO DIGITALISATION

MAYOR Henriette Reker sets clear goals

INNOVATIVE BY TRADITION

CHAMBER OF INDUSTRY AND COMMERCE PRESIDENT Werner Görg on Cologne's insurance sector

CONTENTS

NOVEMBER 2018

The three crane buildings on the site of the former Rheinauhafen harbour, each around 60 metres high, are more than just bold, often-photographed architectural flagships. The three spectacular buildings made of steel and glass are examples of Cologne's dynamic transformation:

**a city on its way to becoming a hub for services and digitalisation.
This issue is thus all about the growing gaming industry, inspirational
research institutions and innovative insurance companies.**



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COLOGNE IS EVOLVING

Deutzer Hafen, ID Cologne, Messecity, Parkstadt Süd Köln, Cologneo I, II and III – new areas that all show off one thing: The cathedral city is evolving and well-positioned for the future.

04

THE CASE FOR AN EVEN STRONGER NETWORK

FORESIGHT IW Director Michael Hüther explains why Cologne-based companies are well-positioned to master the challenges of the future.

THE CAPITAL OF DIGITALISATION

CREATIVE The administration of the cathedral city is supporting companies and startups in the digital transformation by providing incentives and initiatives.

06

08



Gamescom in Cologne is the world's largest trade fair for computer and video games

COLOGNE – HOTSPOT FOR THE GAMING INDUSTRY

ORIGINAL Odile Limpach's work with the Cologne Game Lab (CGL) at Cologne's Technical University is creating the perfect conditions for economic innovation and entrepreneurial agility.

12

ARTIFICIAL INTELLIGENCE IN COLOGNE

IMPRESSIVE Cologne startups are pioneering the research and use of artificial intelligence – and are thus becoming drivers of global digital transformation.

14



DIGITAL NEWS

SIGN OF THE FUTURE From the most digital office building in Germany to food fresh from the web – companies are setting digital standards.

16

"WE SUPPORT TALENT"

SYSTEMATIC Mayor Henriette Reker regards digitalisation as a matter for the boss.

18

COLOGNE COMPACT

GOOD TO KNOW The people and economy of the cathedral city

21

INNOVATIVE BY TRADITION

PROGRESSIVE startups and traditional insurance companies are coming together in a unique partnership to exploit the possibilities of digitalisation.

22



As an insurance hotspot, Cologne is built on a solid foundation and has potential for growth and for new kinds of business

"WILLINGNESS TO TRY OUT NEW THINGS"

VARIED President of the Chamber of Industry and Commerce Werner Görg explains why the organically developed diversity of the Cologne insurance industry provides an ideal breeding ground for innovation.

27

THE MAN IN SPACE IS ALWAYS IN SIGHT

GROUNDED DLR Chief Pascale Ehrenfreund reveals why Alexander Gerst's space mission is also very much a down-to-earth one.

28

RESEARCH IN COLOGNE

OPEN TO THE WORLD Why renowned scientists such as Humboldt Professor Sven Bernecker value Cologne as a place for doing research.

30

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ID COLOGNE

Office complex on the site of the former Mülheim freight station

SCHEDULED COMPLETION

2026

AREA

seven hectares



Designer office building pioneering new ways of working in Germany



PARKSTADT SÜD

Office and residential complex located between Luxemburger Straße and the Rhine

SCHEDULED COMPLETION

2028/2033

AREA

115 hectares



26 hectares of green space, designed according to ecological, climatic and open-space planning criteria

COLOGNE I

Residential and commercial area in Deutz-Mülheimer Straße

SCHEDULED COMPLETION

For the whole project: 2022

AREA

7.5 hectares



60,000 square metres of commercial space in new and old buildings for retail, gastronomy and a multi-storey car park

COLOGNE II

Residential and commercial complex to the west of the Intercity Express rail line on Auenweg

SCHEDULED COMPLETION

For the whole project: 2022

AREA

4 hectares for residential and commercial use

COLOGNE III

Residential and commercial quarter in the northern section of Deutz-Mülheimer Straße, the so-called windmill quarter

SCHEDULED COMPLETION

For the whole project: 2022

AREA

7,500 square metres for several six-to seven-story buildings



COLOGNE IS EVOLVING

NEW PROJECTS



"Nothing in the history of life is as constant as change". The famous quote by Charles Darwin doesn't just apply to biology. Cities change rapidly too – like Cologne, they constantly grow, creating new residential and commercial space to meet expanding and changing needs and, above all, adapt to technological trends. Both the offices of today and especially those of tomorrow are and will be fundamentally different from those of the 1990s or even the 2000s. In many places, the visual appearance of Cologne, a metropolis of millions, is undergoing massive change. What follows is an overview of the most exciting current real estate projects in Cologne.



MOTORWORLD AT THE BUTZWEILERHOF

Event location on the grounds of the former airport at Butzweilerhof with the private collection of Formula 1 legend Michael Schumacher

– opened on 16 June 2018 –

AREA

Over 5 hectares



New V8 Hotel from CHOICE Hotels, one of the world's largest hotel chains, will open at the end of 2018 as part of Motorworld

MESSECITY COLOGNE

New office and hotel district in Deutz between the Deutz intercity train station and the Koelnmesse exhibition centre

SCHEDULED COMPLETION

2024

AREA

5.4 hectares



Main tenant:
Zurich Group Germany



DEUTZER HAFEN

New office and residential quarter around the former inner city industrial harbour

SCHEDULED COMPLETION

2030

AREA

55 hectares



Prominent tenant: REWE Group is planning a new headquarters here





What do companies across different sectors in the cathedral city have in common?

Cologne as a business location is characterised by an amazingly diverse mix of industries. Trade, industry, services, logistics, media and digitalisation startups – all companies active in these sectors profit from the competition of ideas and the associated networking. The great emotional link that connects all industries and forms the very special bond that the people working here have with this city. It's knowing you can celebrate anything here in Cologne, announcing a goal, a vision – you don't have to wait until the project has become a reality.

There's that great saying we have here: FC Cologne just have to announce that they want to win the Bundesliga ...
... and people in Cologne start partying! That's right. And it doesn't matter if and when they actually win the league. It's more about the aim. This spirit, this confidence and commitment to optimism, is also present in the many companies within the Cologne economy. And this mentality also includes a certain looseness, adapting strict rules so that things actually work in real life, using a bit of pragmatism.

What economic strengths do you associate with Cologne?

There is the diversity: companies act independently of any one big player, as it were. Cologne has many small and medium-sized enterprises, its service sector. And we are strong in knowledge-intensive services. In addition, the city has a demographically favourable base of human capital. Apart from the Leverkusen Bridge, Cologne is also well-positioned lo-



THE CASE FOR AN EVEN STRONGER NETWORK

PROFESSOR MICHAEL HÜTHER has worked since 2004 as chief of the Cologne Institute for Economic Research. For the renowned economist, the companies of the cathedral city are very well positioned to master the challenges of the future. Against the background of the growing digital startup scene in Cologne, however, there is a need for action to further develop MINT training.

"THE LINK THAT CONNECTS ALL INDUSTRIES IS THE BOND BETWEEN THIS CITY AND THE PEOPLE WORKING HERE".

gistically. Cologne is located in the centre of Europe – there are river connections, you have the airport, there are good train connections to Frankfurt am Main, to Benelux, to Paris. There is still a lot of economic potential, especially when it comes to logistics.

Are there any other noticeable advantages for potential investors in Cologne?

Well, the city has plenty of space in terms of economic development. There are many districts in which we've seen that settlements can work really well in pragmatical terms. With Deutz, after ten to 15 years of commitment to the former railway area, it's now full of life; we've built on the old harbour on the left bank of the Rhine down to the southern bridge. These are all signals for investors that something is happening in the city.

When you came to the IW in 2004 ...

... it was more or less just the underground car park built under the harbour area behind the chocolate museum. Yes, it was only then that the conversion actually got started. Over a dynamic phase of ten years, the site also developed in terms of urban development with the Kranhäusern (English: crane houses). It's been a great success for the city.

What does IW mean to Cologne?

We pay trade tax. And we are part of Cologne's scientific infrastructure. Of course, I have the feeling that the importance of research and higher education institutions for Cologne must become even clearer. These facilities are ultimately very important economically and can contribute to the city's development.

What do you suggest?

Scientific training for IT engineers should be expanded and brought to Cologne. This could be done in cooperation with RWTH Aachen. Up until now, the Technical University of Cologne has only offered training in computer science at the Gummersbach campus. The Cologne Game Lab at the Technical University of Cologne sets an example in the field of computer games. At the lab, students can practice the development of market-ready games

PROFILE: PROFESSOR MICHAEL HÜTHER

was born in Düsseldorf and has been working in Cologne since 2004. He has been Chief Economist at DekaBank; Chairman of the Expert Commission on the First Commitment Report focusing on corporate citizenship at the Federal Ministry for Family Affairs, Senior Citizens, Women and Youth; and he is a member of the platform of the EU Commission's programme to ensure the efficiency and effectiveness of legislation (Refit), which advocates for efficient and resident-friendly implementation of EU legislation.

Since August 2001, he has been Honorary Professor at the EBS business school in Oestrich-Winkel. Since July 2004, he has held the position of Director and Member of the Presidium of the Institute of the German Economy.

and tinker with concepts and prototypes, and in the best-case scenario, they found a company. We would also need something like this for other economic sectors. Especially given the growing digital startup scene in Cologne, there is a need for action. A third of all companies here, including all digital companies, are startups. In other words, there is a culture of new startups in Cologne that does not focus so much on existing structures as on completely new ones. This must be taken into account in science education.

How do you assess the Startup Unit that's been established in Cologne?

This is a very important contribution to the future viability of the city. When it comes to supporting startups, we still have room for improvement. We don't have to get too heavily involved in these young companies, but we can make it easier for them administratively. If the administration were to act in an even more customer-oriented way, companies and municipalities could soon be taking big steps forward. Cologne is already very well-positioned in terms of broadband supply, i.e. digital equipment. In any case, the companies are ready for the path towards Industry 4.0. But there is still a lot of potential to simplify things via digitalisation – and Administration 4.0 would be a good example.

What's more important to you – the Carnival or the Effzee?

The Carnival, absolutely.

Your favourite place in Cologne?

The riverfront on the Rhine. A beautiful place to relax.



COLOGNE GOES DIGITAL – the administration of the cathedral city is actively seizing the opportunities digital transformation offers, both by building up infrastructure and by offering incentives and initiatives to businesses and startups.

CAPITAL CITY OF DIGITALISATION

E-sports at LANXESS Arena: at ESL One Cologne 2017, up to 15,000 spectators spent a weekend watching gamers compete at the world's largest Counter Strike tournament. At the same time, the games were broadcast via online stream and on the official Electronic Sports League channel. It is estimated that more than a million viewers worldwide watched the final.



370,000 guests. 32,000 of them trade visitors. More than 1,000 exhibitors from 56 countries. These are impressive numbers that can only be summed up in one word: Gamescom. For ten years now – with the most recent fair taking place in August 2018 – industry experts and gaming enthusiasts have been meeting in Cologne's exhibition halls for the world's largest interactive games and entertainment trade fair. Once regarded as a niche industry with a playful image, it has long since turned into a serious, significant and, above all, fast-growing industry. For the organiser Game – the industry association of the German games sector – computer and video games occupy a special role in the digitalised and networked society. "They are simultaneously entertainment media, cultural assets and important door-openers to the digital world for millions of people", says Game's managing director Felix Falk. Games are also becoming increasingly important on the labour market: specialists in the games industry are highly sought-after as experts across many economic sectors, for example as designers of user interfaces or as specialists for virtual environments and artificial intelligence". According to the association's figures, the games industry today provides almost 30,000 jobs in Germany. Across the entire IT, telecoms and consumer electronics industry, the industry association Bitkom expects sales of 164 billion euros for 2018, an increase of 1.7 percent over 2017.

The city of Cologne recognised early on that digital transformation offers enormous growth potential, both for companies and for towns, cities and regions. As early as 2010, the city council commissioned the city administration to draw up an overall plan for Cologne as an internet city, with the aim of turning it into a national and international

centre for internet technology and infrastructure. And it's worked: in a ranking of the most digital cities in Germany by the consulting firm PwC, Cologne ranked first in 2015.

EFFICIENT STRUCTURES

The main reasons for this success were broadband coverage of more than 95 per cent, participatory online budgeting, the city's "welcoming culture" for the digital sector and the council's online information system. Part of Cologne's recipe for success is that the city has sought local partners such as the Cologne Chamber of Industry and Commerce. With its Digital Cologne initiative, it promotes innovative power and digitalisation of the economy. According to a 2016 report by the Cologne Institute for Economic Research on the Cologne startup region, the city itself made early moves in the fields of information and communication technologies, media and creative industries. The city offers high-performance infrastructure and excellent general operating conditions. Its aim is to position and establish itself as a powerhouse of the German digital economy. "Here, a strong and innovative economy meets one of the densest academic and research landscapes in Europe. At the same time, the city is distinguished by high-performance technological developments in transport".

This is one of the reasons why the number of startups in Cologne is constantly growing.

SPACE FOR INNOVATIVE STARTUPS

Several startup hotspots have emerged from the digital scene in the cathedral city. These include the GIZ Founder and Innovation Centre in Cologne's Technology Park, which was initiated in 1986 by figures from the fields of politics, business, universities, chambers of commerce and industry associations. Today the city is one of the GIZ partners. Founder centers like the "Startplatz" at Mediapark also attract digital startups, including the certification service provider Trusted Shops, the Jobsuma job portal, the foreign language web service Linguee/DeepL and the online advertising portal Kalaydo.de. With the incubate8 digital campus, Kölner Messegesellschaft has recently created a location for startups who have developed or want to press on with digital business ideas in the areas of nutrition, furnishing, digitalisation or trade fair/ event services. The building is owned by Kölner Messegesellschaft itself. Mentors from Koelnmesse and external companies bring the entrepreneurs together with established companies – something both parties will benefit from.

THE HEART CHAMBER OF DIGITAL ENTERTAINMENT

The Cologne Game Haus was opened in the same building in June of this year – a limited liability company supported by the city council and funded by companies in the gaming sector. 18 such companies have meanwhile moved into this co-working space, specially aimed at game developers, mainly start-ups. With its Cologne Game Lab (CGL), which opened in 2010, and the Cologne Game Farm Business Incubator, which was launched this year, the Technical University of Cologne is in turn support-

ing students and alumni in developing market-ready games and, in the best-case scenario, even founding their own startup.

Long-established companies in the IT and gaming industry are also located in the cathedral city: these include the PC market leader Microsoft Germany, Electronic Arts (EA) and Turtle Entertainment, including its ESL brand. With 300 million registered players worldwide, EA is an industry giant in interactive digital entertainment. ESL in turn is a leading e-sports company, organising national and international tournaments both online and offline for a wide variety of games. ESL One is a professional video game competition that takes place in several cities around the world.

Central meeting point: Cologne Game House is an intermediary between the games sector and other branches of industry. The nerd room is a place for gaming – and for thinking about ideas that could be developed into startups.



95%

COLOGNE OFFERS WIDE BROADBAND COVERAGE.
THIS IS ONE OF THE REASONS WHY THE CITY CAME FIRST IN THE CONSULTING GROUP PWC'S RANKING OF GERMANY'S MOST DIGITAL CITIES.



THE CITY AND THE DIGITAL ECONOMY

A PERFECT MATCH



Digitally oriented: Digital Hub Cologne teams brings together innovative startups and established companies.

DIGITAL HUB COLOGNE BUILDING BRIDGES

Money is also available: as part of the North Rhine-Westphalia startup stipend, the Digital Hub Cologne (DHC) is supporting Cologne startups until the end of 2022 with a total of

26

MILLION EUROS.

For one year, scholarship recipients receive 1,000 euros each month to support their innovative game ideas. The DHC also supports local startups via pitch competitions: a total of ten startups were given the opportunity to present themselves at DMEXCO (Digital Marketing Exposition and Conference), one of the leading international digital trade fairs, in the autumn of this year. The goal for the DHC is clear: joining forces to produce sustainable digital business models in the Cologne economic region.

There is no doubt – the digital economy is an industry of the future with enormous growth potential. If a city or region wants to profit from these developments, it must create a base for innovative companies to be able to assert themselves in the markets of the future. The city of Cologne supports such companies via several cross-sector digital strategies: Startups can find community support, investors and sponsors online at startupregion koeln.

The insurlab-germany.com website is driving forward digitalisation of the insurance industry and is now the largest industry initiative in Germany.

Innovative startups and established companies can meet up on digitalhubcologne.de, and this joint initiative of the city, the Chamber of Industry and Commerce and the university also supports medium-sized businesses in their digital transformations. This is done through practical workshops, seminars and best-practice examples. And the startup scene is also seeing the benefit: in addition to advisory services, the municipal initiative offers the necessary startup aid for founders through its own event formats and scholarships.

To make the cathedral city even more attractive for founders, the administration has set up a central contact point to strengthen the Cologne startup scene. Startup Unit Cologne will work closely with partners from the business, science and research worlds, the startup scene and the public sector to create conditions in which digital entrepreneurs can thrive. In addition to the newcomers, growing startups (scaleups), specialists and other talented people will also benefit from the project. A win-win situation for all.

STARTUP UNIT COLOGNE

FIT FOR YOUNG COMPANIES

Whether in the Startup Bus, which brings Cologne startups together with companies from the surrounding area, or in pitch training with the experienced coach Vidar Andersen, Startup Unit Cologne strengthens the local startup scene with a wide range of programmes and tailor-made offers throughout the year.

"The success of our startup scene depends on the effective interaction of numerous players", says Mayor Reker. "That's why the close integration of all relevant stakeholders is an essential task of the Startup Unit". The city will make an annual two million euros available for this purpose until 2020.

Top founder: Vidar Andersen gives companies tips on issues such as innovation and growth.



"THE SUCCESS OF OUR STARTUP SCENE DEPENDS ON THE EFFECTIVE INTERACTION OF NUMEROUS PLAYERS".

Mayor Henriette Reker

COLOGNE – HOTSPOT FOR THE GAMING INDUSTRY

The goals of creating fertile ground for startups and driving economic innovation are clearly defined – the Cologne Game Lab (CGL), run by the Technical University of Cologne, sees itself as a pacemaker for technical innovation and entrepreneurial agility. **ODILE LIMPACH** is a professor at CGL and an expert in computer games.



For several years you were managing director of games producers such as Ubisoft Blue Byte. Now you teach business and company formation at the Cologne Game Lab at the Technical University of Cologne. What do you like about this job?

After 20 years in the industry, I now want to share my experience and support the professional development of young people. There is so much potential – the industry has been growing continuously for 20 years and employees of the games industry are among the global pioneers in the use of innovative technologies such as virtual reality and artificial intelligence. In addition, the Cologne Game Lab wants to support young talent in developing new projects and business models. We coach and give tips on how a startup can position itself on the market. Young people are supported both by the Cologne Game Lab team and by a very large mentoring network from the games industry. And this is unique in Europe.

Why Cologne? What are the causes behind these extremely promising developments?

There's no doubt about it – Cologne is a hotspot for the international gaming industry. Fortunately, decision makers from politics and business recognised the industry's promise early on. Cologne Game Lab and the Game Haus are a result of this planning. And the large studios are also rewarding these developments – companies like Blue Byte are expanding in the region and seeking out highly qualified employees. Not to mention Gamescom – almost 400,000 people visited the world's largest games fair. And of course it is extremely helpful that Cologne has always been a media city, with an affinity for film and television.

According to a survey by the industry association Bitkom, more than 30 million people in Germany play games on PCs, mobile phones or consoles. Nevertheless, gaming is still considered to be a fairly superficial form of entertainment. How can this impression be changed?

First of all – the desire to have fun is fundamentally something good and positive. Gaming is a leisure activity that entertains people and sharpens all their senses. This realisation has meant that

society is now taking the industry more seriously. It's nothing new that gaming is for more than just teenagers; it's part of a growing entertainment market, and more than a quarter of gamers are over 50.

“COLOGNE GAME LAB SUPPORTS YOUNG TALENT IN DEVELOPING NEW PROJECTS AND BUSINESS MODELS”.

To what extent is the games industry also a pacemaker for agile thinking in other industries?

We are currently experiencing a transfer of knowledge from the leisure sector to other economic fields – working and development methods, an understanding of communities, customers and customer-related developments – in short, agile project development. Companies in other sectors of the gaming industry can learn

from all of this. After all, it's about developing new concepts and ideas for a target group, trying them out and giving them space to fail if necessary. This trial-and-error approach, the courage to be playful and try things out, is in the DNA of the gaming industry, driving on the pace for economic innovation and agile thinking.

And Cologne as a city ...

... currently offers the most fertile conditions for this kind of agile work. Cologne Game Lab, Gamescom and major publishers such as Electronic Arts form a creative network and thus offer fertile ground for innovations and startups. For example, 18 companies have settled at Cologne Game Haus, with all of them able to support and complement each other.

To develop a game and bring it to market ...

... different skills are required, from audio and actors to programming, game design and graphics. And most small companies are not able to do this on their own straight away. They rely on freelancers and other people. And once this system has established itself, there will be a positive effect on North Rhine-Westphalia as a place of business.

And how do the startups get the financing they need?

Potential investors are often very interested in a financial commitment. Sure – read the numbers and you can see that the industry has annual growth rates of ten percent. At the same time, however, the risk of failure is high. So potential investors are cautious. It's a familiar pattern: "It looks interesting, but it's not something I'm familiar with" – so they prefer not to get involved. And that's exactly what SpielFabrique is working on right now: we want to explain to potential investors how the industry works. The hope is that donors won't get cold feet as often, that they become a little more courageous ...

PROFILE: PROFESSOR ODILE LIMPACH

teaches business administration and entrepreneurship at the Cologne Game Lab and is co-founder of the French-German accelerator SpielFabrique. She also works as a strategic consultant for Serious Games and various cross-media projects. Between 2007 and 2014 she was managing director of the development studio Blue Byte.

She previously worked as managing director for Ubisoft GmbH. Limpach studied industrial engineering in Frankfurt am Main and completed her MBA in the US. She specialises in vocational training and media development.

She also works as a consultant (CCEF) for the French Ministry of International Business Development.



"AS A CITY, COLOGNE OFFERS FERTILE GROUND FOR INNOVATIONS AND START-UPS".

ARTIFICIAL INTELLIGENCE IN COLOGNE

Cologne and artificial intelligence – a perfect marriage! “Cologne awakens an unusually positive attitude to life and is a magnet for this reason alone”, emphasises Jörg Bienert, Chairman of the KI-Bundesverband (and of course a native Cologner!). “Office rents are more affordable than in Berlin, which is a factor for young startups in particular”. The AI companies already settled in the cathedral city all know each other, says Bienert. “There’s no competition; rather, the companies exchange ideas on a collegial basis and get excited by AI, which creates an unusually strong momentum; and that’s important – after all, AI will be the core technology of the coming decades!” Tomorrow’s world: our map gives an overview of the AI companies in Cologne.

EVY SOLUTIONS

THE EXPERTS FOR THE
OFFICE OF THE FUTURE

SERVICE

Automated organisation
of documents

FOUNDED

2017, business
active since 2018

STAFF

six

www.evy-solutions.de

FEDGER

THE PROCESS
OPTIMISERS

SERVICE

Automation of
work processes

FOUNDED

2014

STAFF

26

www.fedger.io

RAYPACK.AI

THE QUALITY
INSPECTORS

SERVICE

Visual analysis
based on AI

FOUNDED

2018

STAFF

six

raypack.ai

DEEPL

THE TRANSLATION
ARTISTS

SERVICE

Artificial intelligence
for languages

Machine translation

Translation for business clients

FOUNDED

2009

STAFF

more than 20

www.deepl.com/translator

AISO-LAB

THE ICONOCLASTS

SERVICE

Strategic consulting
for AI

FOUNDED

2017

STAFF

eight

aiso-lab.com/en

PMONE AG

THE PLANNERS
WITH VISION

SERVICE

AI software for
corporate management

FOUNDED

2007

STAFF

230

www.pnone.com

ITYX SOLUTIONS AG

UNDERSTANDING
CUSTOMERS

SERVICE:

Intelligent
automation

FOUNDED

1996

STAFF

around 120

www.ityx.de

COGNOTEKT

SUPPORTING
MANUAL CRAFTS
AND TRADES

SERVICE

Process optimisation
in companies

FOUNDED

2013

STAFF

almost 40

www.cognotekt.com

UNIVERSITY OF COLOGNE

A NEW CENTRE FOR BIG DATA

The University of Cologne is positioning itself as a forward-looking university with its Center for Data and Simulation Science (CDS). Founded in January 2018, CDS develops customised algorithms and software solutions to capture data structures of immense size and complexity – otherwise known as big data. The CDS brings together academics from the natural and life sciences, economics, social sciences and humanities in order to cover and research as many areas as possible with high-performance data analyses. CDS staff work together with the German Aerospace Center (DLR) in Cologne, the Max Planck Institute for Plant Breeding Research, which is also located in the cathedral city, and the Jülich Research Centre.



EUROWINGS

IN-HOUSE DIGITAL COMPANY READY FOR A BREAKTHROUGH

The airline Eurowings is founding its own digital unit in Cologne: Eurowings Digital GmbH is set to bundle all of the airline's customer-related digital activities from the end of 2018. The most important goal of the new subsidiary is to transform the existing online customer interface eurowings.com into a rapidly growing travel platform. In the future, eurowings.com is to act as a digital travel companion to retain the approximately 40 million Eurowings customers in the long term by using the website and Eurowings app to offer personalised digital services that go beyond merely booking flights. "Anyone who registers on our website and can receive tailor-made hotel bookings, rental cars, event tickets and much more will be happy to return", emphasises Eurowings Managing Director and Chief Commercial Officer Oliver Wagner. "We will be able to offer our 40 million Eurowings customers even better digital services and products in the future". "The airline plans to invest millions of euros in both the expansion of its customer website and Eurowings Digital", and staff numbers in this area are expected to grow to up to 150 over the next few years.

DIGITAL NEWS

FOOD FRESH FROM THE WEB

The REWE Group continues to adapt its delivery service to the digital world. At the end of September 2018, the company put the Food Fulfilment Center 2.0 (FFC) into operation for its online subsidiary REWE digital in its hometown of Cologne, and it remains the only one of its kind in Germany. The REWE employees pick out customers' orders and prepare them for delivery in the respective delivery region. The more than 20,000 different products are stored according to cooling needs and prepared for order picking. The workflow is more efficient than ever: whereas REWE order pickers used to travel up to 15 kilometres a day to gather products for delivery to customers, in future the products will automatically arrive at fixed order-picking points. The FFC 2.0 has a footprint of 2.5 football pitches, a gross volume corresponding to around 250 single-family homes. REWE digital, founded in 2014, is the core of REWE Group's digital transformation. All the strategic and partly operative online activities of REWE Group are bundled at the Cologne Carlswerk site.



DIGITAL NEWS



TIMERIDE EXPERIENCE IMPERIAL COLOGNE

Would you like to discover the old Cologne of the early 20th century? Cologne-based TimeRide GmbH makes it possible! TimeRideVR Köln is the name of the Old Market Square-based historical experience that takes you back in time!

Equipped with virtual reality glasses, visitors can immerse themselves in Cologne's transport history in a replica of the first electric railway.

The 15-minute round trip through Cologne's Old Town during the Kaiser's era provides a 360-degree panoramic view right next to the tram driver. TimeRide Köln passengers listen to the lively hustle and bustle of the past thanks to accompanying sounds – and get to feel the vibrations of the tram and the wind in their faces. The Cologne-based company TimeRide

GmbH and its 27 current employees have been operating VR-based entertainment and education since 2016, and TimeRide VR Köln has enthused tens of thousands of visitors since its opening in September 2017. The reward for this was given in the summer of this year: the Cologne-based company received the Bavarian Founders Award in the Concept category.

Fascinating journey:
with the help of VR glasses,
users experience the
old city of Cologne during
the imperial era.

THE SHIP

GERMANY'S MOST DIGITAL OFFICE BUILDING AIMS TO ATTRACT STARTUPS

As the most digital office building in Germany, The Ship will characterise Cologne's future cityscape. The Cologne-based Fond of GmbH, whose innovations include revolutionising the school satchel market with the development of the Ergobag, is currently erecting the forward-looking building next to the Alte Wagenfabrik office building in Cologne Ehrenfeld. The building, which will be equipped with digital intelligence by the Cologne real estate consultants Drees & Sommer, will have intelligent building navigation for external guests and parking garage control, independent heating and cooling optimisation and charging columns for electric vehicles, desk sharing and room bookings – all done via an app. The name The Ship is reflected in its appearance: the gigantic building is shaped like the streamlined front part of a sailing ship. On up to seven storeys over an area of around 13,000 square metres, around 500 jobs will be created for innovative founders and their startup teams. The client is also planning a co-working space and Fond of GmbH, with its more than 200 employees, is moving into the property itself. In addition to the generous office space, future tenants will also be able to enjoy a fitness studio, a restaurant, a company daycare centre and a roof garden. The completion of The Ship is scheduled for the first quarter of 2020.



EYEO

FOCUS ON FAIR INTERNET

Catching annoying advertising: founded in 2011, Eyeo GmbH from Cologne Ehrenfeld and its 130 employees from 30 countries are currently developing software that blocks unwanted advertisements on the internet. One of the best-known products is Adblock Plus, currently active on over 100 million devices. The browser extension hides unwanted advertising, while users can allow so-called "acceptable ads", thus supporting publishers and advertisers and a healthy online ecosystem. Eyeo is currently working on the machine learning program Sentinel, which aims to recognise and then automatically hide irritating advertisements by means of an algorithm. Sentinel is currently in beta and concentrating only on Facebook. Users can feed screenshots of unwanted Facebook ads via <https://adblock.ai>. Eyeo is also working on other projects that support sustainability and fairness on the internet, such as the micropayment service Flattr and the Trusted News Extension, which informs users about the trustworthiness of websites they visit and thus helps in the social fight against fake news.

An algorithm that learns: Eyeo GmbH piques the interest of the online community with a robot figure. In the current version of Adblock Plus, users can allow selected internet advertising to be shown and thus support publishers and advertisers.





“WE SUPPORT TALENT”

Ms Reker, have you tested the new Elite Controller for the Xbox One yet – with Bluetooth & USB-C? And what about new games like Fifa 19, Project Highrise and Rise of Industry? Or, to put it another way: how do you relate to digital gaming?

Unfortunately, my job leaves me almost no time for leisure activities. But I am really fascinated by the rapid development in the games industry. What has happened in the area of virtual reality in recent years is impressive, for example. During this year's opening tour of Gamescom, I got an overview of the latest developments and tried some of them out. I found it exciting to see that things have long since gone beyond gaming as a pure leisure activity and that e-learning games for kindergartens and schools are becoming more and more common.

This year, Gamescom once again attracted hundreds of thousands of visitors to Cologne. What significance does the gaming industry have for Cologne as a place of business?

The gaming industry is very important in several ways. Firstly, gaming itself is a steadily growing economic sector with great potential. E-sports has long grown out of its infancy. Events in this area are developing into mega-events. Beyond that, however, it is necessary to move away from the idea that gaming should only be

viewed from the point of view of entertainment. Gamification is now successfully applied in industry, business, science, health, education and training. From this point of view, there is much more to “games” than you might think. The high potential of games for innovation is an enormous driving force for digital transformation in many areas. Cologne recognised the importance of the games industry early on and has developed into an internationally recognised hotspot for games.

With Gamescom, Cologne is for one week the centre of the world for ...

... anyone who works in games. In addition, there are

other events, congresses and renowned award ceremonies that make Cologne a games city. That's right. And the fact that Cologne is one of the most renowned university cities in Germany for education and training in game development and game design is certainly one reason why more than 60 companies have now settled in Cologne – including world market leaders and a large number of young and innovative start-ups. With the Cologne Game Farm, we have also established an efficient incubator – and with the Cologne Game Haus we've created Germany's largest co-working space for the games industry.

With the help of other partners, we have succeeded

in creating an efficient ecosystem for the games industry in Cologne. This positive trend is set to continue. Leading IT and gaming companies are based in Cologne.

How can further boosts be ensured for the city and its administration in the future?

In terms of infrastructure and digital environment, Cologne is already excellently positioned. According to a recent study by the German Economic Institute (IW), Cologne's companies have more affinity for the digital sector than those in Berlin, Hamburg and Munich. And while the city of Cologne can't impose the economic exploitation of technologies or digital

transformation of the economy as a whole, it can play an active role and provide frameworks in which the challenges and opportunities of digitalisation can be tackled more actively.

We rely on several strategies at the same time, all of which have one thing in common: they will only be successful if different players and stakeholders work together.

er, if they are willing to think outside of the box and look at things in a more comprehensive and networked way.

One successful example of this is InsurLab Germany . . .

. . . which was founded around a year ago in Cologne City Hall. Within one year, the institution has become Germany's largest industry initiative for the digital insurance in-

dustry, with around 60 members.

To what extent does digitalisation also offer many opportunities for the Cologne city administration?

By the end of the year, the go-ahead will have been given for the highly ambitious "digitalisation programme", which will aim to digitise a large part of the city's ser-

vices. This also means that online payments, electronic checking of identity documents, more online appointments and voice control will be available for local residents and that networking with services like Google and other platforms will be improved. In total, the city administration is already offering an online option for more than 50 administrative services. This year, for instance, we have launched an online version of the Meldeauskunft service, which residents can use to demand the contact details of anyone living in the city.

Cities and municipalities throughout Germany rely on clusters to promote economic development: in other words, they rely on the bundling of very specific industry expertise within a region. How could the concentration of digital skills in Cologne be further increased? More tax incentives, for instance?

More tax incentives are desirable in some areas, to efficiently encourage innovation and entrepreneurship. However, these issues are tackled more at the federal level and are not really matters for cities and municipalities. Cities, on the other hand, can actively determine how things are networked together. With the Digital Hub Cologne, the InsurLab and the Cologne Game Haus, the City of Cologne has created platforms for the exchange of digital expertise for companies from Cologne and the wider region.

“IN TERMS OF INFRASTRUCTURE AND DIGITAL ENVIRONMENT, COLOGNE IS ALREADY EXCELLENTLY POSITIONED.”



In addition, our objective as a national and international network platform is to connect startups, established companies, education providers, investors and other partners more closely – via industry-specific and cross-departmental events, too.

What general condition is the Cologne economy in at the moment?

The Cologne economy is currently in a good overall position. In view of the stable economic situation, further employment growth and a reduction in unemployment are expected in Cologne in the course of 2018. With 565,100 employees in jobs subject to statutory social insurance, Cologne reached a new high in 2017 for the seventh time in succession. This is due to the diversified mix of industries in Cologne and the surrounding area, which of course has special focal points that strengthen the entire system. In addition to the automotive, chemical and mechanical engineering industries, which are important for Cologne as an industrial location, these are primarily in the cluster of information and communication technologies, media and creative industries, and increasingly also innovative startup companies, like those working in transport, health, insurance and energy.

And which companies still need a little starting assistance?

For years, the efforts of business, science and politics have concentrated on expanding the digital economy as an in-



PROFILE: HENRIETTE REKER

Henriette Reker is the first woman in Cologne's history to lead the city, the fourth-largest in Germany. In the first ballot, held on 18 October 2015, she won 52.66% of the vote as an independent candidate. Her candidacy was supported by the local parties of the CDU, Bündnis 90/Die Grünen, and by the Your Friends and Cologne Free Voters groups, who are likewise represented on the local council. Previously, the lawyer worked for five years as deputy mayor for social

affairs, integration and environment in Cologne and for ten years as deputy mayor for social health and consumer protection in Gelsenkirchen.

Henriette Reker was born on 9 December 1956 in Cologne. She is married.

dustry of the future. In addition to growing what's already present on the ground, innovative start-ups play key roles as growth drivers. One focus of Cologne's economic policy is on harnessing the diverse potential of the digital economy both for economic processes – especially SMEs – and in order to discover and develop new potentials and economic fields.

The focus of the city's support activities is primarily on helping young talent. In recent years, Cologne's dy-

tionally. To this end, two million euros will be made available from the budget each year until 2020.

In one sentence, please: "Cologne is the ideal business location for innovative companies because ...

... the metropolis on the Rhine, with a long tradition as a centre for creativity and innovation in the middle of one of Europe's strongest economic regions in terms of turnover, offers the best opportunities for regional and na-

"IN ADDITION TO GROWING WHAT'S ALREADY PRESENT ON THE GROUND, INNOVATIVE STARTUPS PLAY A KEY ROLE."

namic startup scene has increasingly served as a boost to the city's economy. In addition to developing existing talent, other young, creative minds from the digital economy need to be brought to Cologne.

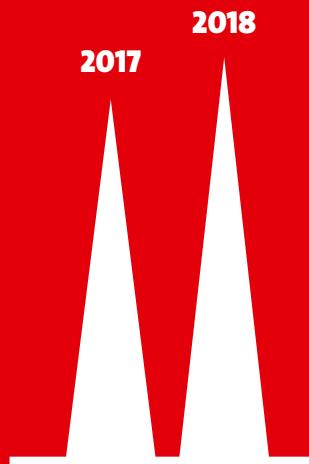
The city administration has set up the Startup Unit Cologne especially for this purpose. It is intended as a central coordination and contact point to strengthen the start-up ecosystem in Cologne nationally and interna-

tional networking – in an environment that is tolerant, multicultural, cosmopolitan and truly worth living in.

745,500

MEN AND WOMEN

WORK IN COLOGNE
AROUND 12,000 MORE PEOPLE
THAN IN THE PREVIOUS YEAR.



COLOGNE COMPACT

Versatile, full of life and forward-looking: things worth knowing about the people and the economy of the cathedral city.

IN 2017, KOELNMESSE HAD A TOTAL TURNOVER OF MORE THAN 350 MILLION EUROS, SURPASSING THE PREVIOUS RECORD YEAR OF 2015 BY TEN PERCENT. PROFITS FOR THE 2017 FINANCIAL YEAR WERE OVER 20 MILLION EUROS.

113,000

NEW JOBS SUBJECT TO SOCIAL SECURITY CONTRIBUTIONS WERE CREATED BETWEEN 2007 AND 2017 – THIS CORRESPONDS APPROXIMATELY TO THE NUMBER OF INHABITANTS OF BREMERHAVEN OR FÜRTH.

★ 1,023,031 GUESTS VISITED
109 MAJOR EVENTS

AT THE LANXESS ARENA IN THE 1ST HALF OF 2018.

THAT'S ALMOST AS MANY PEOPLE AS LIVE IN COLOGNE.

NETCOLOGNE WILL INSTALL 400 KILOMETRES OF FIBRE-OPTIC CABLES

in the next five years – that's equivalent to the distance between Frankfurt and Munich.



28

BABIES ARE BORN IN COLOGNE
EVERY DAY.

In 2017, 11,784 children were born. In order to take them all on a sea voyage, four ships the size of the Queen Mary 2 would have to be chartered.



25,439 PASSENGERS GO THROUGH CHECK-IN AT COLOGNE/BONN AIRPORT EVERY DAY.

1,084,795

PEOPLE LIVE IN COLOGNE.

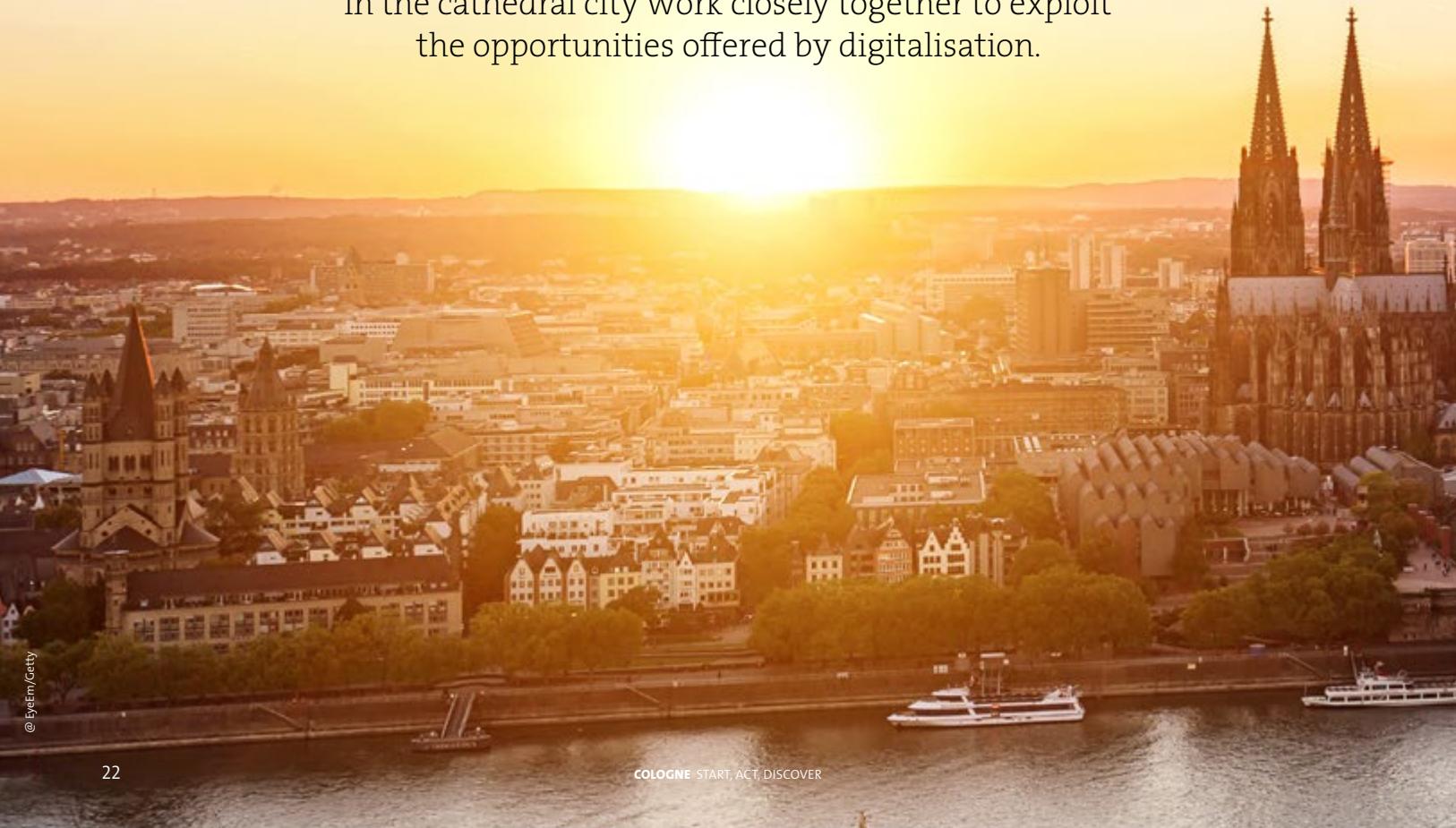
► ALL TIME HIGH IN 2017 ◀



A HOTSPOT FOR
INSURANCE
COLOGNE

INNOVATIVE BY TRADITION

Cologne has a **LONG HISTORY AS A LOCATION** for insurance companies. Tradition and creativity have combined for centuries to create a unique mixture. Today, startups and traditional insurance companies in the cathedral city work closely together to exploit the opportunities offered by digitalisation.



S

he has brightly coloured braids, garish make-up and wears the short skirt typical of the manga girls made famous by Japanese cartoons. In the seemingly endless queue of young people, she jostles her way from Cologne's Deutz railway station to the exhibition halls. Her destination: Gamescom. The colourful horde winds its way past the construction site where the Zurich Group's new headquarters will be completed by 2019. The building next to the exhibition grounds is not especially spectacular in itself. Nevertheless, it is characteristic of Cologne and its insurance sector: instead of hiding behind the gleaming facade of a financial centre, insurance brokers in the cathedral city mix with the rest of local life.

Along with Munich, Cologne has one of the most important insurance sectors in Germany. For years, the two cities have been competing head-to-head for the top spot in the ranking of German cities' insurance sectors. With more than 30,000 employees, the Bavarian capital is ahead of the field in terms of the number of employees. This is mainly due to the insurance giants Allianz and Munich Re. In Cologne, 28,600 people work in the insurance industry. Cologne's strength lies in its variety: 73 of a total of 670 insurance companies in Germany have their headquarters in the cathedral city. A further 60 have a branch here and more than 20 international groups are represented in the area. In addition, there are a large number of brokers, agents, service providers and service companies. The Institute for Insurance Studies at the University of Cologne, the Institute for Insurance Studies at the Technical University of Cologne and the Technical College for Financial Services provide well-trained specialists. In addition to big names such as Axa, Gothaer and DKV, there are numerous insurtech firms – counterparts to the

fintechs of the banking sector – who are developing exciting innovations in the field of digitalisation.

COLOGNE IS A NATIONAL HUB FOR INSURTECH

And the Cologne insurance market has potential. That's why Mayor Henriette Reker is promoting Cologne in London in her efforts to attract UK-based insurance companies in the face of Brexit. From Cologne, they would be able to offer their products across the whole of the EU in the future. The city is a digital hub for Insurtech in Germany. It's an initiative that was launched by the Federal Ministry of Economics. InsurLab Germany is one of twelve centres nationwide that are seeking to advance digitalisation in central industries.



73

OF A TOTAL OF
670 INSURANCE COMPANIES IN
GERMANY HAVE
THEIR HEADQUARTERS
ON THE RHINE.
A FURTHER 60 HAVE A BRANCH
HERE AND MORE
THAN 20 INTERNATIONAL
GROUPS ARE
REPRESENTED IN
THE AREA.





A compact overview: The website www.insurance-hub.cologne offers comprehensive information on Cologne as an insurance city, focusing on the cathedral city's expertise in insurance matters – a particular issue against the background of Brexit.

The Cologne-based networking platform is working on the digitalisation of the insurance industry: "Insurance companies have recognised that digitalisation opens up enormous opportunities for them", says Sebastian Pitzler, Managing Director of InsurLab Germany.

Both sides benefit from the cooperation between startups and established

companies that takes place at InsurLab Germany: "Startups can realise their ideas, and established companies get access to new talents and new expertise", explains Pitzler. Many digital ideas are much easier to develop in a startup environment than within established corporate structures. InsurLab is a success story: since its foundation in May 2017,

the number of members has risen from twelve to 61. The founding members include a Who's Who of the German insurance industry. The University of Cologne and the Technical University of Cologne also contribute their know-how.

Cologne offers the ideal setting for sharing ideas and experiences: "We often find that the two sides speak a different language. Translators and intermediaries are often needed as well. We would like to offer that kind of forum", says Pitzler regarding the work of InsurLab. Regular exchange between insurance groups and startups is an important part of the networking process. One of the last workshops resulted in three concrete commissions for startups.

An overview of Cologne as an insurance city can be found online at www.insurance-hub.cologne. With this industry portrait, the city of Cologne and the Chamber of Industry and Commerce are also addressing international insurers who are concerned with the positioning of their companies in relation to Brexit. The website is the latest building block in the joint activities with which the city and the Chamber of Industry and Commerce, with the support of the industry, are focusing on promoting Cologne as an insurance centre against the background of Brexit.

The goal is ambitious: "Together we have the potential to develop Cologne into a national and international insurtech hub for the insurance industry",

MONEYMEETS A PLATFORM FOR FINANCE

With digitalisation, people's needs are changing. They want platforms on which they can control and supervise their finances, too. Moneymeets is just this kind of platform. The Cologne fintech was founded in 2010 by Dieter Fromm and Johannes Cremer. They saw early on the enormous opportunities offered by digitalisation in the financial sector. The first version of the website went online in 2012. From the outset, clients were able to buy investment funds without a front-end load, thus receiving a large portion of the portfolio commissions back. Moneymeets users get a simple and bundled overview of their accounts and securities. They can also check insurance contracts with the help of a Robo Advisor, and they have access to almost all insurance products. Moneymeets also makes its platform technology available to other companies. Small and medium-sized financial service providers often lack the resources and ability to develop their own digital platform.



Reliable partners: Johannes Cremer (left) and Dieter Fromm founded the fintech Money meets in Cologne.

says Cologne's Mayor Henriette Reker. Heiner Hoefer, Partner at KPMG, is convinced that the chances are good: "Unlike startups from many other industries, insurtechs will not primarily be found in Berlin". The proximity to established industry players is increasingly important due to tight regulation of the industry. In Cologne, they find a network to turn their creative potential into reality.

REINSURANCE WAS INVENTED IN COLOGNE

With the InsurLab, the insurance industry in Cologne is building on its traditionally strong innovative strength. The insurance industry was founded by Peter Heinrich Merkens, who was born in 1777 as the son of a protestant baker. Merkens began as an apprentice at a spice retailer at the Heumarkt in Cologne. He founded a trading company and observed that goods repeatedly fell from the ships into the water. And so in 1818, he founded a transport insurance policy for goods shipped over the Rhine. And because factories kept burning down in the city's narrow streets, Merkens took part in the city's first fire insurance policy in 1838, later turning it into Colonia-Versicherung. And when almost all of Hamburg was destroyed by the city's great fire in 1842, he also initiated an insurance policy for insurance companies. This became the world's first reinsurance company – Kölnische Rückversicherung.



WHERE UNIVERSITIES AND COMPANIES WORK HAND IN HAND

There is no other city in Germany where students can find as many insurance-related degrees as in Cologne. One example is the Centre for Insurance Science at the University of Cologne. The university trains students in insurance management, insurance law and actuarial mathematics. Since 1999, Professor Heinrich Schradin has been leading the General Business Administration, Risk Management and Insurance Programme at the University of Cologne. Schradin is also Managing Director of the Institute for Insurance Science at the University of Cologne. The Institute for Insurance Studies at the Technical University of Cologne (ivwKöln), with 17 actively teaching professors and currently more than 1,000 students, is the largest such research institute for insurance in the German-speaking world. And it has a first-class reputation, both in the region and internationally. "Teaching, research and practice are closely interlinked in our company. This is in our DNA", says Professor Michael Völler of ivwKöln.

None other than US star investor Warren Buffett is co-owner of this Cologne reinsurance company today. In 1994, the US General Reinsurance Corporation formed an alliance with the then Kölnischen Rück (Cologne Re). In 1998 the General Re Corporation was acquired by Buffett's holding company Berkshire Hathaway. Today, Gen Re has its European headquarters in Cologne, where the company employs 600 people and is a founding member of InsurLabs: "We are very happy about this initiative and are happy to actively support it. We see this as strengthening Cologne as an insurance city. It allows us to contribute even more of our international expertise to the discussion", says Winfried Heinen, Chairman of the Board of General Reinsurance AG, the German subsidiary of Gen Re.

BIG MARKET PLAYERS REPRESENTED IN NUMBERS

Colonia, co-founded by Merkens, was also continually expanded before being taken over by Axa in 1997. The French insurer now manages its German business with 4,600 employees based in the from the Holweide district. "Our industry and



NEWLINE

COLOGNE IS BECOMING A CENTRE OF EU ACTIVITIES

Britain's withdrawal from the EU is already casting its shadow. The Newline Group, headquartered in London, will in future manage its European activities from Cologne. For this reason, the company intends to set up an insurance company in Germany, licensed and regulated in accordance with local law. Newline has had a branch office in the cathedral city since December 2016: "Choosing Cologne as our location was a logical step due to our existing presence and the support of the City of Cologne", said Carl Overy, CEO of Newline Group. The speciality insurer is thus making preparations for Britain's withdrawal from the European Union.

ACTINEO

PIONEER IN DIGITAL CLAIMS PROCESSING

Evaluating personal injuries is very costly and time-consuming. The Cologne-based startup Actineo is breaking new ground. The company takes care of processing in its entirety on behalf of insurance companies. This begins with the collection of all relevant doctor and hospital reports, continues with the assumption of patients' costs and ends with the negotiation of fees with medical practices and clinics. The company digitises every case and thus simplifies the process. Insurance companies have fixed contact people in key account teams. The status of each individual case is updated daily and is available at all times. This means that the insurance company always has access to the latest information.



thus our company are currently in a very intensive phase of upheaval. The aim is to lead the traditional business model of insurance into the modern, digital world. The proximity to startups changes the corporate culture within companies", says Jörg Schmidt, Group Human Resources Manager at Axa Germany. It has never been more attractive for graduates to enter the insurance industry. The industry offers creative lateral thinkers the right environment.

Axa is not only a founding member of InsurLabs Germany. In Cologne, the Group also opened the third Data Innovation Lab worldwide, a project that works on the insurance of the future. The Transactional Business (TRX) innovation unit is also unique at Axa Germany. Surrounded by film studios and young companies, it is located in the Schanzenviertel district of Mülheim. With this in-house startup, Axa is further developing its business model.

Today, Axa is the insurance company with the most employees in Cologne. It's followed by Gothaer, which was founded in 1820 as the first mutual insurance company – another milestone in the insurance industry. But there are also specialists such as credit insurer Atradius, health insurer DKV, Roland Rechtsschutzversicherung (recently taken over by Axa and Gothaer) and terrorism insurer Extremus.

NUMEROUS NEW ARRIVALS

In recent years, several international insurers have settled in Cologne. These include the industrial insurers Mitsui Sumitomo and XL Catlin. "Cologne has an excellent infrastructure with great advantages in terms of location. The city of Cologne and its environs are also attractive residential locations for our employees. This makes it easier to attract and retain good personnel. This was another reason for us to set up our new RhineLand headquarters in Cologne", says Bernd O. Engelien, Head of Corporate Communications for Zurich Group Germany.

A HOTSPOT FOR INSURANCE
COLOGNE

"THE PROXIMITY TO STARTUPS CHANGES THE CORPORATE CULTURE WITHIN COMPANIES".

Jörg Schmidt

Group Human Resources Manager
Axa Germany

It will pool together the Cologne and Bonn locations into the cathedral city and concentrate jobs in Cologne.

Now the insurance industry is facing the great task of pushing ahead with digitalisation, making it something vibrant. "There are completely new opportunities to design individual insurance products and adjust premiums to individual risks", says Christopher Schmitz, partner at the consulting firm EY. These are good prospects for the Cologne insurance landscape.



Creative lateral thinking: Axa is bringing the traditional insurance business model into the new digital world – including open-space working and the breaking open of work routines.

Professor Görg, what is the great strength of Cologne as a city for the insurance sector?

It's variety, first and foremost. With a wealth of primary insurers, reinsurers, insurance sales companies and brokers, Cologne brings together a huge amount of expertise. This innovative strength and the resulting attractiveness for insurance companies seeking new locations is also shaped by extensive academic support and assistance and by key actuarial research at the University of Cologne and the Technical University of Cologne. That's a unique combination. Even Munich doesn't have such a broad base, being as it is dominated by the giants Allianz and Munich Re. The cooperation between academia and industry has a long tradition in Cologne, which is characterised by strong links to the academic world.

What defines the innovative strength of the insurance industry in Cologne?

It is the proximity to the University and the Technical University, combined with the pronounced willingness in Cologne to try out something new. This has its origin in the fact that many large, medium-sized and even small insurance companies are located here. They are often managed in the legal form of a mutual insurance association. These are not dependent on quick profits for the next quarterly balance sheet. Instead, they are more patient with their innovations. In addition, there has in the past been a whole series of new product developments that have now gained in prominence throughout the market. These include forest



“PRONOUNCED WILLINGNESS TO TRY OUT NEW THINGS”

The Cologne insurance landscape is characterised by its diversity.

Here, academia and industry work closely together. This is an ideal breeding ground for innovations, explains Dr Werner Görg, President of the Cologne Chamber of Industry and Commerce.

PROFILE:

DR WERNER GÖRG

has been President of the Cologne Chamber of Industry and Commerce since 2015. The lawyer is Managing Director of Roland Rechtsschutz Beteiligung GmbH and Roland Partner Beteiligungsverwaltung GmbH. From 2001 to mid-2014, he headed the Gothaer Group. In his role as CEO, he was most recently responsible for group strategy, legal/compliance, auditing, controlling and risk management, strategic participations and executive development. Today he is Chairman of the Supervisory Board of the Gothaer Group.

fire insurance, cyber risk analysis and risk coverage for serious diseases. Cologne has excelled in these innovations.

Can the insurance industry in Cologne benefit from Brexit?

Clearly it can. As long as the UK is a member of the single market, an insurer domiciled there can benefit from the EU principle of the Single European Passport. It can sell products throughout Europe without having to maintain a subsidiary on the European mainland. However, this privilege of free market access is only granted to individual countries and their companies as long as these countries are members of the EU. With the UK's withdrawal, insurance companies there lose their permission to trade in the EU. As a result, British insurers will have to establish a subsidiary in Europe or relocate their headquarters to the continent. Cologne is ideally suited as a “landing site”. This also explains why the Chamber of Industry and Commerce and the city are making intensive efforts to attract British insurance companies. This strengthens the breadth of Cologne as a city for the insurance sector.

What do you appreciate the most about Cologne?

Its lightness, cosmopolitanism and quality of life: those are what make Cologne so liveable and lovable, both as a place for living and a place for doing business. I don't know of a single case where the hiring of new employees would have failed because the applicant and their family did not want to go to Cologne – on the contrary.



THE MAN IN SPACE IS ALWAYS IN SIGHT

The German Aerospace Centre (DLR) is one of the largest and most modern research facilities in Europe. This heart chamber of scientific work also benefits from the innovative environment of Cologne as a business location.

DLR Chief **PASCALE EHRENFREUND** on new projects and why Alexander Gerst's space mission is also very much down-to-earth.

Professor Ehrenfreund, what makes the Rhineland so attractive for you professionally?

First of all there's the high density of research institutions and universities that DLR works with. In addition, there are also opportunities for cooperation with innovative companies. What also shouldn't be forgotten is the positive attitude towards academia, which is something you can really feel in the state and its municipalities. It's a real quality of this region as a place for doing business.

ESA astronaut Alexander Gerst has been on-board the International Space Station ISS since June 2018. What has happened since then in Cologne, while the first German ISS commander has been in space?

A total of eleven research and academic institutes work at the DLR site in Cologne. Three of them are directly involved in the Horizons mission. Before

Alexander Gerst launched into space, his physical and mental condition was examined at the Institute of Aerospace Medicine. When he returns directly to Cologne from space after about six months, he will spend the first few days in "envihab", one of the institute's research laboratories. Comparative medical examinations are carried out there. This unique research institution was financed in the framework of Regionale 2010, with funds from the state of North Rhine-Westphalia and the EU.

But at the moment ...

... Alexander Gerst is still on the ISS and one of his main tasks there is to carry out scientific experiments in zero gravity. Of all the institutes in Cologne, the DLR Institute of Materials Physics in Space is especially involved in this project. The experiments deal, for example, with key research questions on the flow

behaviour of granular materials.

This sounds trivial, but is important for agriculture, construction companies and forwarding agents when it comes to the composition of sand, grain and other bulk materials.

DLR is one of the most modern research facilities in Europe. What do you regard as its future priorities? Science? User-oriented research? Education?

Exactly those areas. DLR has a broad base. Our research covers aviation, space travel, energy, transport, security and digitalisation – from interdisciplinary basic research to application-oriented science. This is one of our strengths. Our scientists are also active in teaching at colleges and universities, and they maintain partnerships with industry. One example from Cologne is the development of more efficient and less polluting turbines together with Rolls-Royce Germany and Ansaldo Energia.

"Out of school – into the lab!" What impetus do you hope Cologne will get as a business location from this DLR project?

The DLR student laboratories have been around for 18 years. There are now 13 of

PROFILE: PROFESSOR PASCALE EHRENFREUND

has been Chairman of the DLR Executive Board since 2015. Ehrenfreund, born in 1960, studied astronomy and biology at the University of Vienna. After her doctorate and top-level professorship qualifications at the University of Vienna, she worked at the Leiden Observatory in the Netherlands and at the Jet Propulsion Laboratory in Pasadena, USA. In 2008, Ehrenfreund completed a Master's degree in Management and International Relations. She has also been Professor of Space Policy and International Affairs at the Space Policy Institute of George Washington University since 2008. Pascale Ehrenfreund is married and has two children.

these institutions nationwide, some of them being operated jointly with universities. Our goal is to awaken and promote enthusiasm for the natural sciences and technical professions. At DLR, the pupils can do more than just experiment for a day; they also learn things that have a practical relevance for their schooling. We also offer internships for pupils and students and are involved in special events such as Girls' Day and the Cologne Children's University.

DLR employees develop aircraft of the future, test rocket engines, evaluate images from distant planets and train astronauts to fly into space. To what extent does DLR also take care of earthly issues?

Almost all our research also has a down-to-earth element. Take the above examples: the aircraft of the future should be safer, more efficient, less polluting and quieter. In aviation research, we cover the entire aviation system. The exploration of distant celestial bodies provides us with important information about our planetary system and also about the origin of life on Earth. Astronauts fight in space against the effects of weightlessness, such as the breakdown of muscle and bone mass and changes in the car-



GERMAN AEROSPACE CENTER

SEARCHING FOR SOLUTIONS TO THE CHALLENGES OF THE FUTURE

The German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt, DLR for short) is one of the most important research institutions in Germany and makes a key contribution to the study of the Earth and the solar system as well as to research into the protection and preservation of the environment. In addition to its own scientific work, DLR works as a space agency on behalf of the German government and is responsible for the planning and execution of German space activities such as Alexander Gerst's current Horizons mission. DLR's space management division plans and implements the German space programme on behalf of the German government and represents Germany's interests at the European Space Agency (ESA). In the European Astronaut Centre (EAC), which is also located on the DLR site, astronauts are supported during the preparation and execution of space missions.

diovascular system. Similar symptoms can be found on earth in bedridden people and patients suffering from osteoporosis. The knowledge that we gather for the training of astronauts also flows into medicine used back on Earth. Locally, we also work closely with the Cologne Sports University.

What about the development of high-speed trains and energy production processes?

The development of high-speed trains is a DLR-wide project with nine participating institutes. In Cologne, tests were conducted in a cryogenic wind tunnel cooled to minus 173 degrees Celsius. Renewable energies are a topic of growing importance here. Only last year in Cologne, we inaugurated the new large-scale TE-SIS salt storage facility, which develops solutions for the efficient storage of process heat in industry. This facility is closely geared to the requirements of future users and is part of an excellence centre for heat storage technologies. A key technology for the challenges of energy system transformation. As a business location, Cologne is also home to the Institute for Solar Research, which operates a solar tower for power plant research in nearby Jülich and has also built the largest artificial sun in the world.

Which industries in Cologne are particularly inspired by DLR?

I can only say that we maintain good relations with the city of Cologne, the Chamber of Industry and Commerce and numerous partners in the region. This offers a lot of potential for inspiration and cooperation.

"DLR HAS A BROAD BASE – FROM BASIC RESEARCH TO INDUSTRIAL APPLICATIONS".



RESEARCH IN COLOGNE

With more than 100,000 students and more than 40,000 academia-related jobs, Cologne is an important location for science and research.

There is no doubt that Cologne as a research and academic location thrives on the reputation of its researchers. The stars of the science scene love to come to the Rhine – not least thanks to the Alexander von Humboldt Professorship. At five million euros, it is Germany's highest research endowment, and forms a solid basis for advancing technical, social and societal developments around the world. And the Gottfried Wilhelm Leibniz Prize, awarded by the German Research Foundation and endowed with up to 2.5 million euros, also went to a top researcher who teaches in the cathedral city.



Professor Henning Walczak researches the development of cancer and autoimmune diseases. The biochemist looks at the normal death of cells in the human body. When cells are irreparably damaged, they die and the body produces new, healthy cells. A disturbance of this process is regarded as a key factor in the development of cancer and autoimmune diseases. If it were possible to activate this self-destruct programme of the body in a targeted manner, cancer cells would kill themselves with-

out damaging surrounding cells. If Walczak's appointment as Humboldt Professor at the University of Cologne is successful in the coming year, preclinical and clinical research will see the benefit.

Already active as a Humboldt Professor at the University of Cologne is **Professor Jijie Chai**, who researched the structure of proteins. Proteins are the key to defence against pathogens. By describing the complex structures of proteins, Chai provides the basis for the devel-

opment of drugs and for the fight against plant diseases. With the research of Jijie Chai, the University of Cologne and the Max Planck Institute for Plant Breeding Research combine their research in medicine, biochemistry and botany.

Professor Sven Bernecker is one of the most important philosophers of our time. He is regarded as one of the pioneers of a renaissance of philosophical engagement with memory and has been working at the University of Cologne since 2016. At the centre of his work is the question of what memory actually is. Bernecker uses approaches from the cognitive sciences, psychology and sociology (see the short interview on the right).

SCIENCE NEWS

PLEV TECHNOLOGIES/THE STEERON ELECTRIC SCOOTER AN AGILE TOOL

Agile and emission-free: with the folding Steeron electric scooter, the Cologne-based startup Plev Technologies GmbH will launch a hybrid electric scooter/e-bike at the beginning of 2019. The company, founded by graduates of the Technical University of Cologne, has developed an electric scooter with all-wheel steering. It travels at up to 25 km/h and is collapsible in the same way as the common folding bike. "Steeron can thus be combined with different means of transport", explains Marvin Panek, one of the three founders of the startup, "and it is ideal for short trips".





Professor Jens Beckert has succeeded in linking two academic fields that have so far developed largely in isolation from each other: sociology and economics. His "new economic sociology", which embeds economic processes and decisions in the context of social action, is breaking new scientific ground. Beckert's core question is this: how do people deal with fundamental uncertainty of the market? For this approach, the Director of the Max Planck Institute for the Study of Societies in Cologne and sociology professor at the University of Cologne received the Gottfried Wilhelm Leibniz Prize, awarded by the German Research Foundation.

"COLOGNE PRAGMATISM IS VERY LIKEABLE"



New Cologne native **SVEN BERNECKER** on the reasons for his academic move to the Rhine

What advantages does Cologne offer as a business location compared to your previous locations in Vienna and Irvine, California?

I especially appreciate the compactness of the city, the public transport and the relaxed locals. Cologne's pragmatism is great. And I'm pleased to say that people who didn't grow up in Germany say that they would feel comfortable in Cologne. Unfortunately, that's not the case everywhere in Germany. For me, a decisive advantage of Cologne as a business location is also the fact that my research centre is located here. Apart from my

colleagues in the faculty, I particularly appreciate Axel Freimuth, the rector at the university. As a dynamic visionary, he is tirelessly committed to pushing the institution forwards.

And on the occasion that you're not at work? How do you prefer to spend your free time in Cologne?

There is little time left for leisure alongside work. I spend the little free time I have with my wife and our three children. In the summer we use the many bathing lakes around Cologne, and we also like hiking in the Siebengebirge and in the Eifel. Within the city, of course, I appreciate the museums, especially the Museum Ludwig.

And how could Cologne improve as a location for academia and research?

What would you like to see for the future?

It would be great if the North Rhine-Westphalia state library were based in Cologne. And the university could really use a modern conference centre.



NETWORKING KNOWLEDGE

The Cologne Science Forum (KWR) was founded in 2004 as a network of Cologne universities and research institutions, with the aim of making Cologne visible and tangible as a research location. The forum is supported by the city of Cologne and the Cologne Chamber of Industry and Commerce. The common goal is the networking of economic and scientific potentials in the region. With the help of the Cologne Science Forum, Cologne's academic sector will also be made visible and tangible for residents of the cathedral city. With its network and public relations work, KWR makes an active contribution to the development of a sustainable urban society. At the same time as the Cologne Science Forum was founded, a Cologne science portal was also launched, jointly operated by its group of more than 20 member institutions. The www.koelner-wissenschaftsrunde.de website provides daily updates and reports on events, activities and research reports from Cologne's scientific institutions. The KWR thus offers a compact overview of Cologne as a centre for academia.

FORD CLIMATE TEST CENTRE

WEATHER FACTORY IN MERKENICH

The hottest place and the coldest, the wettest place and the highest in Western Europe: all of them are located in Cologne. Technically speaking, at least. In its new climate test centre in Merkenich, Cologne, Ford can generate desert heat, Arctic cold and extreme mountain air. At the Weather Factory, the carmaker is putting new models through their paces. The plant cost the company more than 70 million euros. "The climate test centre sets a new standard in the industry", explains Gunnar Herrmann, boss of Ford Germany.

RIMASYS/CADLAB ACADEMY TRAINING CENTRE

FLIGHT SIMULATOR FOR SURGEONS

Pilots spend many hours at a simulator before they are allowed to take passengers into the air. The Cologne-based startup Rimasys GmbH now offers something similar for casualty surgeons: in their Cadlab Academy at BioCampus Cologne, doctors can practice operations before treating living patients. Up to 60 physicians stand at ten operating tables in the training centre, learning about the treatment of complicated fractures on specimens. "We offer a kind of flight simulator for surgeons", explains Robert Holz, one of three managing directors of Rimasys.



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