

CONVEX

– International –













Special
Feature

Toppan's Expanding Packaging Business





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Notice from the Public Relations Division

CONVEX International is an internal magazine for the Toppan Group. The title, *CONVEX*, is based on the meaning of the Chinese character “凸”, which is pronounced *totsu* in Japanese and is the first character in the word *toppan*. In the same way that a convex lens focuses light at a single point, the name of the magazine expresses Toppan bringing together its “vibrant knowledge and technology.”

Cover Photo

The photo on the cover is a collage of Toppan Group employees who contributed to the special feature. Thank you to everyone who took part.



Special Feature



Toppan's Expanding Packaging Business

With the need for sustainable packaging mounting across the globe, Toppan's packaging business is undergoing a major transformation. Collaborations have already begun among our manufacturing and sales bases in the Americas, Europe and Asia, including Japan, to supply Toppan's packaging materials all over the world.

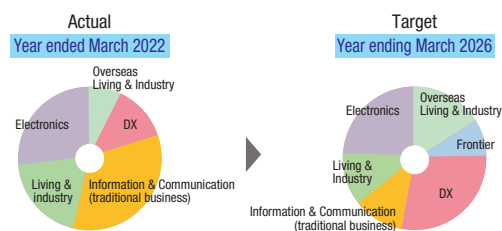
In this special feature, we will showcase our growing packaging business, highlighting three new companies that have joined the Toppan Group.



Background

Fiscal 2022 (April 1, 2022 – March 31, 2023) marks the final year of the Medium Term Plan announced in May 2021 and the year in which we will complete the “Foundation Building” phase of our management roadmap. As part of this phase, we have been driving our digital transformation (DX) business, expanding our Living & Industry business, and creating new businesses under our priority measure of “transforming the business portfolio.”

In expanding our Living & Industry business, we have seen a need to revolutionize our packaging business in particular to meet the growing global need for sustainable packaging. Establishing a worldwide manufacturing and sales network, we will expand the packaging business. With these efforts, we are aiming to have our Living & Industry business outside Japan make up at least 15% of total operating profit worldwide by fiscal 2025.

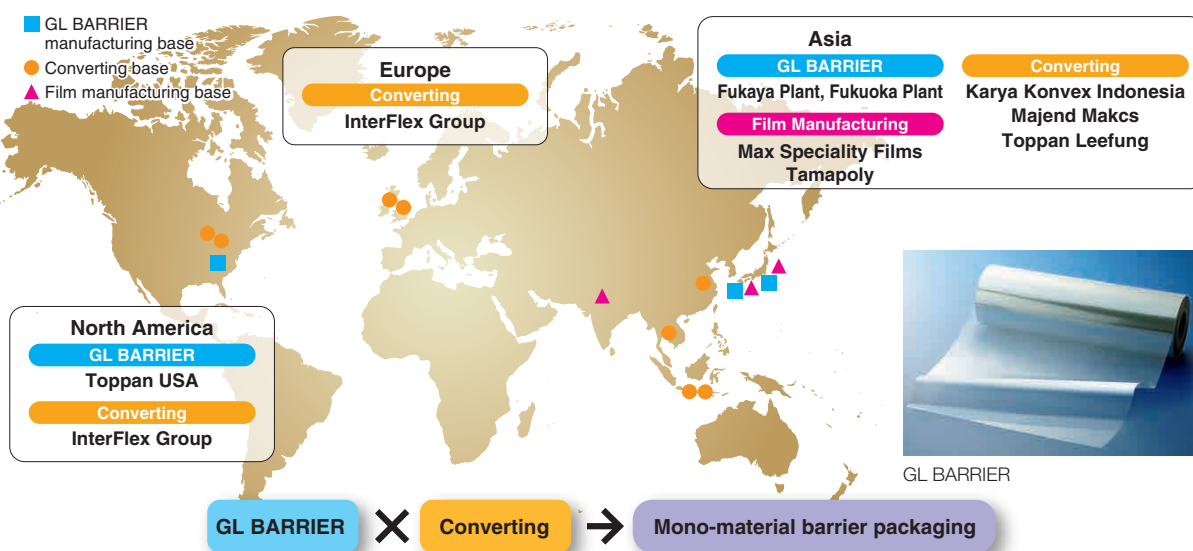


Breakdown of operating profit

Toppan's Packaging Business

Supply mono-material packaging to main areas by leveraging GL BARRIER and converting bases in each region.

- Enhance GL BARRIER lineup and strengthen global development structure
- Generate synergies with acquired film/converting businesses
- New manufacturing bases and alliances for sustainable growth



Trends in Packaging

The European Commission (EC), the European Union's executive body, has established a target to

recycle 50% of plastic packaging materials by 2025 and 55% by 2030. Consumers in Europe are also greatly concerned with sustainability, and many companies

have already made it their goal to use packaging materials with less environmental impact. Using and switching to sustainable packaging is going mainstream.

Evolution of Our Packaging Business

1970	–	Began production in several Asian countries
2010	–	Started manufacturing GL BARRIER at bases overseas
	April 2016	Toppan USA (Georgia, U.S.) began operations
2020	–	Established a worldwide supply structure
	July 2021	Acquired InterFlex
	December 2021	Made Max Speciality Films a subsidiary
	May 2022	Acquired Majend Makcs

Let's look at the three new companies that joined the Toppan Group over the past year

InterFlex Group

For over 40 years InterFlex has been an innovator in flexible packaging solutions with flexible, responsive service as key to our value proposition. Our teams support a range of recognized brands in the specialty packaged goods segments in the U.S., U.K., and Europe.



InterFlex Group U.S.



Chris Payne
President

About InterFlex Group North America

InterFlex Group NA is a leading flexible packaging printer and converter with headquarters in Wilkesboro, North Carolina and sites in Merrill, Wisconsin and Appleton, Wisconsin. Founded in 1975 to service packaging for fresh poultry, InterFlex has grown and evolved into a full-service provider of packaging solutions for CPG clients in food and chemical spaces.

Joining Toppan

Being part of Toppan will provide the backing and support to grow the InterFlex and Toppan business and brand in the North American market. I have been most impressed with how favorable Toppan's reputation is across the world.

To relax and refresh myself...

I find relaxation in the outdoors whether hiking, mountain biking, kayaking or paddle boarding. Our location in North Carolina allows my family to enjoy the mountains, freshwater lakes, and Atlantic Ocean all within three hours of our home.



Location:
North America
Employees: 222

Key Message

Our philosophy revolves around the idea that we want to be the resource and collaborator our customers can't envision operating without.



Technology Center (WI)



Merrill site (WI)



Wilkesboro Facility (NC)



NAHQ & Wilkesboro Facility (NC)

Products



View of the U.S.



Downtown Wilkesboro, NC



W Kerr Scott Dam Wilkesboro, NC



Wilkes Heritage Museum Wilkesboro, NC



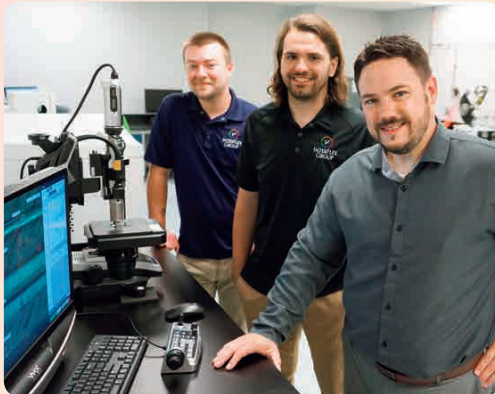
The Gazebo Merrill, WI



Recreation Area Merrill, WI

What our team does... Our team drives platform development in the retort, hot fill/pasteurized foods, poultry, and chemical markets. In addition, we support current customer business and partner with Sales & Marketing to pursue new opportunities. We are also deeply involved in key Toppan-InterFlex mono-material developments.

Communication with the team... We meet every week to review the previous week's activities and to plan our efforts for the coming week. Changing priorities, challenges and successes are discussed daily if needed. Good communication within our team ensures that resources are utilized to maximum effect.



Left to right: Ryan Hinson, Sam Adelmeyer, and Craig McDougal



Craig McDougal
Technology Development Manager
InterFlex Technology Center
(Appleton, Wisconsin)

Outstanding Teamwork!



Tonya Morrison
Customer Account Analyst
(North Carolina)

To relax and refresh myself...

I am a quilter. I have quilted and taught quilting for almost 26 years. It is a passion of mine and a place where I find solace. My early years were focused on learning techniques and perfecting my craft. My later years is where I find it to be my art. I am inspired by bright colors, nature and the challenge to grow in my art. We are never too old to learn or grow.



Some of my favorites from 2022

InterFlex Group U.K.



Graham Tilley
President

About InterFlex Group Scotland

InterFlex Scotland Ltd., has two sites—one in Scotland, close to Edinburgh and the other in Newcastle in the north-east of England. The business has traded for over 100 years as a packaging business. It is dedicated to flexo printing, has over 250 staff and a revenue of just over \$60 million.

Joining Toppan

Toppan's packaging business is expanding rapidly and InterFlex is at the start of what will be an exciting journey. Toppan carries a strong reputation for innovation and is an inclusive, people focussed organisation. Both these attributes will enable the U.K. to fit well with the people at Toppan...it will be fun!

To relax and refresh myself...

I like going to the gym, mostly weight-training. I bought a house with a large garden over 25 years ago and I've become quite good at gardening, or more precisely growing vegetables. Both these very different activities are how I 'switch off.'



Locations: England and Scotland
Employees: 225



Dalkeith Facility (Scotland)



Flexographic printing machine



Laminator

Key Message

Passion, Experienced, Innovative

Products



View of the U.K.



Edinburgh Castle



Edinburgh Princess Gardens



Scottish piper



Whisky



Forth Rail Bridge

What our team does... The team oversees and supports all aspects of our flexographic flexible packaging processes, from reprographics and planning to operations, and ensures products are produced to high quality standards to achieve our customers' requirements in an efficient, safe, fast-paced working environment.

Communication with the team... I like to communicate with the team daily to ensure we are all working together. The teams' views and opinions on operations and customer requirements are imperative to ensure we manufacture products efficiently throughout the site.



Jim's team



Jim Cleghorn
Operations Director
(Dalkeith, Scotland)

To high quality!



Beth Gall
Origination Executive

My strengths... I like to think before I act and will always be open to listening to new ideas or ways of completing tasks. I enjoy working in teams to find solutions to problems and challenges and have a very strong eye for detail.

To relax and refresh myself... I like to be outdoors and enjoy trail running, cycling, and walking my dog. I like to set myself challenges and enjoy training for events with my family and friends.



Loch Ness Marathon group

Max Speciality Films



Founded in 1990, Max Speciality Films Private Limited (MSFL) is a leading manufacturer of speciality and value added BOPP films of differentiated quality used in flexible packaging of food, confectionery and fast moving consumer goods, as well as in industrial packaging.

Location: India
 Employees: 455
<http://www.maxspecialityfilms.com/>



Manohara Kumar
CEO

Vision...

To be India's most admired and preferred global supplier of specialty polymer films. We will continue to focus on sustainability.

Joining Toppan...

Support for MSFL's future growth and working together to explore synergies to the maximum.

To relax and refresh myself...

I get up at 5 a.m. every day and read, then exercise and walk in the park followed by meditation.



Key Message

To Great Heights!

Products



What our team does... We enable other employees to do their work well and contribute effectively to organizational success by creating a conducive working environment and organizational culture.

Communication with the team... Adopt an open door approach, always have a listening ear for all employees, and try to take a holistic, systematic and pragmatic view for any organizational issues or situations.

My strengths...

Strong focus on action and results with a detail-oriented mindset.

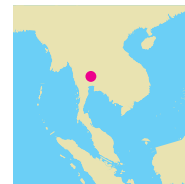
To relax and refresh myself...

Spending time with my family and my son in particular.



Kirat Brar
Head of HR & Admin

Majend Makcs



HQ Location:
Thailand
Plant location: Rayong
Employees: 256

The Ayutthaya factory was flooded in 2011. We built and operated a factory in Amata, but we lost customers. However, many of our employees moved from Ayutthaya to Rayong in 2013, and the Amata factory is now fully operational, and we have been able to rebuild our sales partnerships, especially P&G and Japanese cold food manufacturers.



Nobuyuki Takahashi
COO

Joining Toppan...

I am looking forward to Toppan not only for its technology, but also for its support in quality and process improvement. I would also like to strengthen our sales force with support in terms of proposals and connections to global users.

To relax and refresh myself...

In terms of sports, I like to play golf and enjoy a round. I also like action movies and watch them often.



Key Message

All employees overcame the flood damage, which created a sense of unity.

Products



What our team does... Our team is committed to driving the organization in a better direction. We support each other and respond to assignments to the best of our ability.

Communication with the team... I believe that good communication promotes collaboration, so I make an effort to reach out and connect with them as well as support, encourage, and respect them.

My strengths...

Being a problem solver from various perspectives under challenging conditions.

To relax and refresh myself...

Spending time with my family and pet. Going out and connecting with nature.



Sorawut Han-Asa
Factory Manager

The Future of the Packaging Business



Masahiko Tatewaki

Managing Executive Officer
Head of Global Packaging and
President of Toppan USA, Inc.

Industry Trends

One major trend is growing sustainable package demand to preserve the environment and reduce plastic waste. While there are several solutions, such as recyclable packages and biodegradable plastics, it will be a huge change, including rethinking the composition of plastic films. Sustainable packaging is currently limited to certain products, but use will accelerate from 2025, becoming mainstream in 2030. Prompt action is key to our growth strategy. This is similar to the shift to electric vehicles.

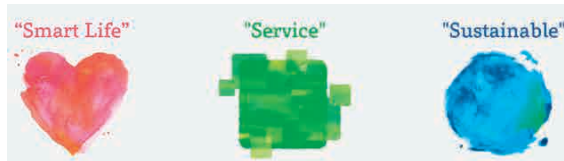
Strengths and Challenges for the Toppan Group

Marketing

In Japan, we sell products under the Toppan brand, which is getting stronger, partly due to recent commercials. However, the brand is still weak outside Japan. We are using the brand power of overseas companies acquired via M&A to expand a "local production for local consumption" business. I hope to grow Toppan, including the company name and logo, into a global brand, enhancing marketing capabilities in 2023 and 2024.

Development of new products and new technologies

Our Sustainable Transformation (SX) strategy is to expand product development around GL BARRIER, a powerful weapon for sustainable solutions. While expansion has been centered on strengths in barrier film, our basic policy now is to become a truly global converter, leveraging Indian BOPP/CCP supplier Max Speciality Films, InterFlex Group's converting business in Europe and the U.S., Indonesia



Toppan Printing and Plasindo in Indonesia, and the ASEAN region carton and flexible packaging supply capacity of Thailand's Siam Toppan Packaging and Majend Makcs.

As business expands rapidly, challenges include acquiring personnel and experience for post-merger integration and strengthening all aspects of governance. We will overcome these teething problems by developing frameworks in collaboration with relevant departments.

Future Vision

When sustainable packaging becomes mainstream, we need to be a major global player—a dream I have to make reality. Employees will be active all over the world. My mission is to create the stage for that. It is important for me that we do not try to spread our ideas as "correct," but develop new Toppan standards by embracing diverse perspectives and integrating them with ours.

Message to Employees

COVID-19 has hindered activity, but we are working to enable employees from overseas companies to interact. Let's share the best of each company and country to generate synergies beyond just numbers and create a unique culture.

To relax and refresh myself...

Watching sports where you work or visit on business. It is a great opportunity to learn about local people and culture. In Chicago, where I work, I am a huge fan of the Chicago White Sox.



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Security Solutions

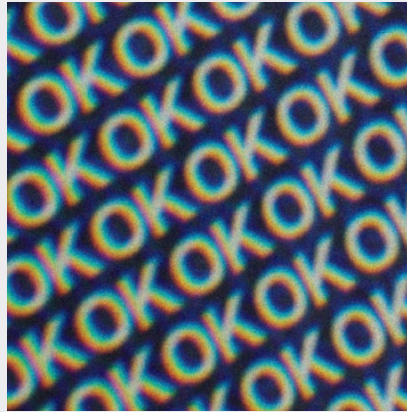
<https://toppan.com/en/news/2022/06/newsrelease220629.html>

Hologram That Displays Text and Images in Response to Strong Light

Toppan has developed a new hologram on which three-dimensional images appear in response to strong light, such

as a smartphone's flashlight. When a point-source light is shone on Illumigram™, images with depth are

visible from any angle, facilitating verification by any user without a QR Code or dedicated equipment.



Text appears (right) when strong light is shone on Illumigram™.

Features of Illumigram™

Verification with a smartphone

Images move as the angle of the light changes

Combination with other holograms and verification services

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R&D

<https://toppan.com/en/news/2022/09/newsrelease220916.html>

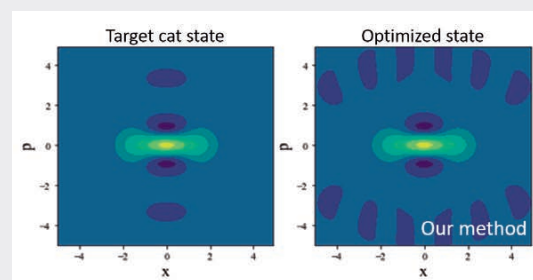
Quantum Computing Method toward Error Correction Technologies for Quantum Software

Toppan is advancing research into quantum software as part of its efforts to develop next-generation computational technologies. Two papers Toppan researchers are involved in were selected for the Posters Program at the IEEE¹ QCE², with the research displayed from September 19 to September 22.

¹ IEEE (Institute of Electrical and Electronics Engineers)
<https://jp.ieee.org/>
² QCE (International Conference on Quantum Computing and Engineering)
<https://qce.quantum.ieee.org/>

About the research papers

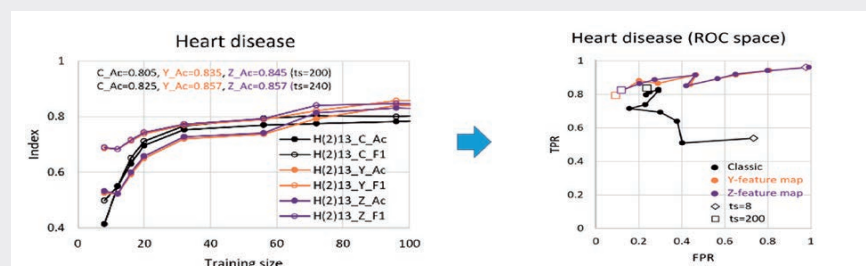
(1) Optimization of non-Gaussian state generation using tensor networks and automatic differentiation



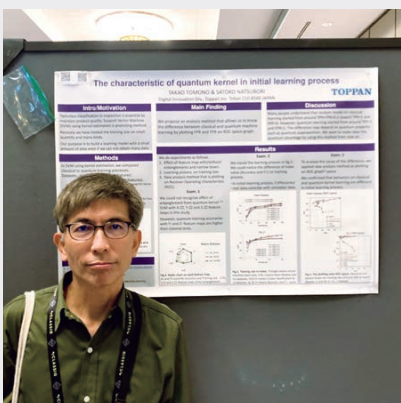
α	Fidelity	
	Ref.[1]	Our method
0.5	1.0000	1.0000
1.0	0.9999	0.9999
1.5	0.9958	0.9957
2.0	0.9709	0.9717

This figure suggests the possibility of high-speed computation using a new computational method in the optical quantum scheme.

(2) The characteristic of Quantum Kernel in the initial learning process



This figure suggests the possibility of quantum machine learning by the evaluation method developed for the learning model of quantum machine learning.



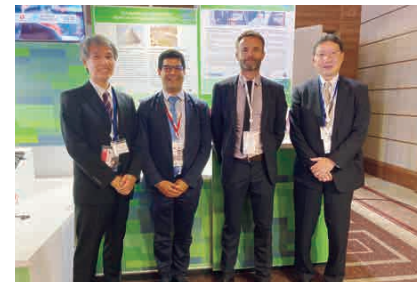
Takao Tomono

Toppan's Takao Ikeda Gives a Speech at TICAD 8



Takao Ikeda, Managing Executive Officer of Toppan's Global Business Division, gave a speech at the 8th Tokyo International Conference on African Development (TICAD 8), held in Tunis, Tunisia on August 27 and 28. During the event, Mr. Ikeda presented Toppan's technologies that contribute to Africa's development, solving problems related to

the government infrastructure gap. Toppan Inc. and Toppan Gravity showcased a series of solutions ranging from registration of personal information to issuance of IDs, including Toppan ToBe™* Identity Authentication and Verification Solutions.



Representatives from Toppan and Toppan Gravity



Takao Ikeda, Managing Executive Officer

*About Toppan ToBe™
For more information: https://lnkd.in/g_nuVpsr

GERMANY

Interprint Holds Traditional "Gautschfest" Event

Interprint has upheld the guild induction tradition for many years. In August 2022, the company held Gautschfest¹ and eight artisans were baptized in water in keeping with tradition. This is a symbolic act which is meant to wash off "all mischief, faultiness, botch-up and sloppy work" that occurred during the apprenticeship. This is completed by entering a barrel of water and drinking a liter of beer. The crowning finale was the award of the journeyman certificate at the guild induction ceremony.

1. The word "Gautschfest" is derived from a technical term used by papermakers, figuratively meaning that the apprentice has graduated from apprenticeship and has been promoted to journeyman status.

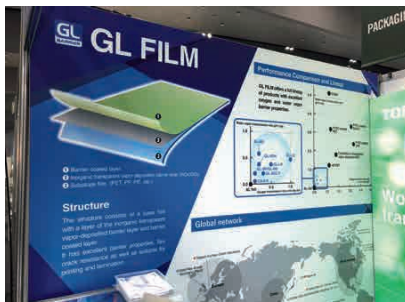


Exhibitions Held

Many exhibitions have been held online since 2020 due to the pandemic. However, from spring 2022, real exhibitions have begun to be held, and the Toppan Group has taken advantage of this opportunity to participate in various events to showcase its latest products and services. As this was the first time in a while that real exhibitions have been held, events enjoyed many visitors and were very successful.

Australia

Toppan exhibited at Fine Food Australia held in Melbourne from September 5 to 8.



UAE

Toppan Gravity joined DIGIBANK 2022, a leading banking transformation forum held in Dubai, as a Networking Sponsor.



Other exhibitions

- DIC EXPO (Shanghai, China) November 9 to 10
- electronica 2022 (Munich, Germany) November 15 to 18
- VIETNAM Foodexpo (Ho Chi Minh City, Vietnam) November 16 to 19

India

Toppan and Toppan Group company Max Speciality Films exhibited at PackEx India 2022 from September 14 to 16.



JAPAN

Toppan Obtains Approval from SBTi

Toppan has obtained approval from the Science Based Targets initiative (SBTi) for its 2030 target for reduction of Scope 1 and 2 greenhouse gas (GHG) emissions, one of the Toppan Group Medium-and-Long-Term Environmental Targets for Fiscal 2030, which were established in 2021.



**SCIENCE
BASED
TARGETS**

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

TOPPAN World SEEDS

In this section, we introduce you to employees working at Toppan Group companies around the world.

File 3: Miaoli, Taiwan

Area: 1,820 km²
Population: Approx. 536,000 (May 2022)



Longfeng Fishing Port



Miaoli County is located in the north-central part of Taiwan's main island. The west coast of the Taiwan Strait has beautiful coastal scenery. There are mountains over 3,000 meters high in the east of the territory. Several rivers flow from east to west along the terrain, forming scenery filled with a variety of mountains and rivers.



Giantplus Technology Co., Ltd.

Founded in 1997, Giantplus is a supplier of small- and medium-sized TFT-LCDs. To strengthen our core competence and position in the market, our business strategy is focused on the markets for automobiles and high-end niche, customizable control devices for industry.

With our transmissive-type and transfective-type technologies, we also meet user needs for excellent visibility under sunlight while helping to save energy and addressing climate change.

Giantplus Technology Co., Ltd.

Location: 15 Industrial Road, Toufen, Miaoli, Taiwan

Business: R&D, manufacture, and sales of TFT-LCD displays, LCD panels and modules

Report

As Director of the President Office, I mainly assist in facilitating different aspects of business operations and management. I also act as a bridge between the president and frontline managers to help make timely recommendations on decision-making. In my spare time, I like going to a nearby harbor to walk down the pier and watch the sunset or buy some freshly caught seafood to take home and make sashimi or some other dish with. Miaoli County also has lots of beautiful mountain ranges and walking trails. Sometimes I take my backpack to bathe in the forest and enjoy a refreshing day out surrounded by nature away from the city.

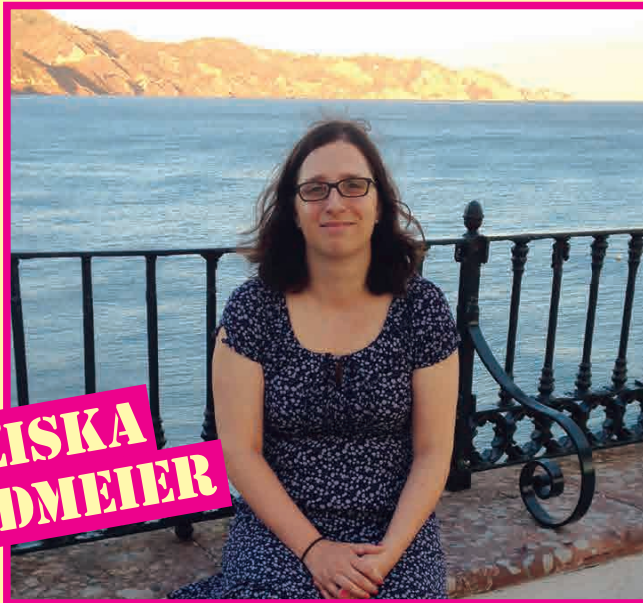
River Jiang
Director of the President Office
Giantplus Technology Co., Ltd.



MEET OUR PEOPLE

Staying in Touch with Nature and My Creative Side

10
**FRANZISKA
HARDMEIER**



Enjoying the seaside in Spain

Position/job
VP AI & Technology

Department & company name
Technology
Toppa Digital Language

Location (city and country)
London, United Kingdom

some of the nature reserves, nearby woodlands or the seaside instead. I have two children under five and we do lots of arts and crafts. Before having children, I used to do a lot of sewing (which is currently on hold) but I am rediscovering my creative side with the kids. Our current favourite is building houses or castles (with turrets, balconies, decorations, etc.) out of all sorts of recyclable materials.

What advice or message do you have for Toppa colleagues around the world?

At Toppa we are such a fascinating company that delivers many different services to our customers worldwide. It is a very multi-cultural environment and getting to know and talk to colleagues can open up interesting insights or open doors to new opportunities.

Toppa Digital Language delivers tech-enabled language solutions for global companies with high-risk, business-critical content.

Franziska joined Toppa in the U.K. in 2021 with a focus to build and scale the technology solutions portfolio and setup, which has since contributed to several large contract wins.

Tell us a bit about how you came to work for Toppa?

Having worked with the management team of Toppa Digital Language in the past, it was an easy decision to join its founding team when the opportunity arose. The global reach and entrepreneurial spirit of Toppa's group companies appeal to me, and I am passionate about the value that our team and technologies can bring to our customer base.

What experience have you built up since joining Toppa?

As I joined Toppa, we decided to implement ISO 27001 for information security. While I was aware of the standard before, leading the actual implementation taught me a lot about the different regulatory,

organisational and technical aspects of information security. Through the acquisition of one of our business units specialised in Market Research, I have also gained new insights into the specific jargon and services for that industry.

How do you maintain a good work-life balance?

To relax I like to enjoy the outdoors - hiking, swimming or just spending time with a good picnic. I am originally from Switzerland and I love going back home and up in the mountains. As we are living in the U.K. though, we tend to try and visit

Enjoying a business lunch after ISO certification audit



Team lunch in the London Toppa Digital Office



Hiking in Switzerland

