

call for papers



# ICCG 13

## THE 13<sup>TH</sup> INTERNATIONAL CONFERENCE ON COATINGS ON GLASS AND PLASTICS

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Advanced Coatings for Large-Area  
or High-Volume Products

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**Second Circular**

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**March 23-26, 2020**

Conference Center  
Stadthalle Braunschweig, Germany  
<http://13.iccg.eu>

Organized by  
International Organizing Committee of ICCG  
and ICCG e.V.

Scientific partner



**Fraunhofer**

IST

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## Welcome to the 13<sup>th</sup> ICCG

Following the last twelve successful ICCG conferences, the 13<sup>th</sup> ICCG will be held on March 23 – 26, 2020 in Braunschweig, Germany. The focus of the conference is to bring together science and industry to discuss the latest trends in the field of coatings on glass and plastics. Apart from universities and research institutes, the conference addresses coating manufacturers, material and equipment suppliers, and user industries. As a traditional city of science Braunschweig provides an inspiring platform for its guests. Future-oriented topics have a long tradition in the Lion City.

The application of coatings is an area which has become extremely important for large-area and high-volume products. The conference focuses on the development and application of advanced coatings on glass and plastics, using a broad and multidisciplinary approach. The topics will cover all of the required steps and techniques to control the coating process, to characterize, and to finish the coated product. Finally, the 13<sup>th</sup> ICCG provides information on the different technologies at a general level for new product designers, as well as technical aspects, safety measures, and environmental and economic factors. A panel discussion on “Future of Automotive Glass and Plastics with regard to Electromobility” will also be organized.


From Monday to Wednesday companies and organizations will have the opportunity to present their equipment, products, and materials within the technical exhibition.

Besides the stimulating technological and scientific program, we hope that the conference site itself will provide many opportunities for interesting discussions and networking within the international glass and plastic coatings community.

We look forward to seeing you in Braunschweig in 2020!



Prof. Dr. Günter Bräuer  
Chairman of ICCG



Dr. Koichi Suzuki  
Secretary of ICCG



Dr. Volker Sittinger  
Local Chairman of ICCG13

**Local Organizing Committee**

Local Chairman	Dr. V. Sittinger, Fraunhofer IST, Germany
Local Secretary	Dr. S. Kondruweit, Fraunhofer IST, Germany
Local Editorial Chairman	Dr. A. Pflug, Fraunhofer IST, Germany

**International Organizing Committee**

Chairman	Prof. Dr. G. Bräuer, Fraunhofer IST, Germany
Secretary	Dr. K. Suzuki, SurfTech Transnational Co., Ltd., Japan
Editorial Chairman	Dr. J. Pütz, Carl Zeiss Vision GmbH, Germany

Prof. Dr. G. Bräuer, Fraunhofer IST, Germany | Dr. D. Bernt, Pilkington Glass RUS&CIS, Russia | Dr. W. De-Bosscher, Soleras Advanced Coatings, Belgium | A. Fujisawa, Nippon Sheet Glass Co., Ltd., Japan | Dr. V. Geyer, Scheuten Glas, The Netherlands | Dr. K. Hartig, Cardinal Glass Industries, USA | Dr. M. Junghähnel, Fraunhofer FEP, Germany | Dr. E. Rudigier-Voigt, Schott AG, Germany | Prof. Dr. N. Kaiser, Fraunhofer IOF, Germany | Dr. T. Kälber, SCHOTT AG, Germany | Dr. H. M. Kang, KCC, Korea | K. Kato, Central Glass Co., Ltd., Japan | Dr. J. Kuncova-Kallio, BioNavis Ltd., Finland | Dr. M. Liehr, W&L Coating Systems GmbH, Germany | Dr. K. Maeshige, Asahi Glass Co., Ltd, Japan | Dr. M. Mennig, mm.nanoconsulting, Germany | Dr. K. Nagamoto, Lintec Co., Ltd., Japan | Dr. G. Ockenfuß, Viavi Solutions Inc., USA | Prof. Dr. S. Oktik, Sisecam, Turkey | Dr. J. Pütz, Carl Zeiss Vision Smart Optics GmbH, Germany | M. Robinson, Italy | Dr. G. Schottner, Fraunhofer ISC, Germany | Prof. Dr. Y. Shigesato, Aoyama Gakuin University, Japan | R. P. Shimshock, MLD Technologies, USA | Dr. J. Strümpfel, Senior Consultant PVD, Germany | Dr. K. Suzuki, SurfTech Transnational Co., Ltd., Japan | Prof. Dr. B. Szyszka, Technical University Berlin, Germany | Dr. R. Thielsch, Eastman Chemical Company, Germany | Dr. R. Trassl, Applied Materials Web Coating GmbH, Germany | Dr. J. Trube, Verband Deutscher Maschinen- und Anlagenbau e.V., Germany | J. Vitkala, Glaston, Finland | Dr. S. Wang, Institute of Materials Research and Engineering, Singapore | Prof. Hui Ye, Zhejiang University, China

**International Advisory Committee**

Prof. Dr. H. Biederman, Charles University, Czech Republic | Dr. M. Geisler, Consultant in Wächtersbach, Germany | Prof. Dr. H. J. Gläser, Consultant, Germany | Prof. Dr. C. G. Granqvist, Uppsala University, Sweden | Dr. M. Hirata, Nippon Sheet Glass Co., Ltd., Japan | Dr. K. Makita, Central Glass, Japan | Dr. F. J. van Milligen, JDSU, USA | Dr. M. Walther, Schott AG, Germany

**Organized by**

International Organizing Committee of ICCG and ICCG e.V.  
Scientific partner: Fraunhofer Institute for Surface Engineering and Thin Films IST

**Correspondence ICCG13**

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info@iccg.eu, <http://13.iccg.eu/en/contact>

**Address of ICCG Secretary**

Dr. Koichi Suzuki  
SurfTech Transnational Co., Ltd.  
1509 Inishia-Shinkawasaki,  
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koichisuzuki@surftech.co.jp

**Supported by**

- Deutsche Glastechnische Gesellschaft DGG, Germany
- Glass Innovation Institute GII, Finland
- Glass Performance Days GPD, Finland
- Glass Worldwide, UK
- PLASMA GERMANY, Germany
- Society of Vacuum Coaters SVC, USA

**Main Sponsor**

**VON ARDENNE** 

VON ARDENNE GmbH, Am Hahnweg 8, 01328 Dresden, Germany

**Basic Sponsor**

Bühler Alzenau GmbH, Siemensstraße 88, 63755 Alzenau, Germany

**Sponsors**

Advanced Energy Industries GmbH, Uracher Straße 91, 72555 Metzingen, Germany

MaTeck Material-Technologie & Kristalle GmbH, Im Langenbroich 20, 52428 Jülich, Germany

PLASUS GmbH, Lechstraße 9, 86415 Mering, Germany

robeko GmbH & Co. KG, An der Heide 3 B, 67678 Mehlingen, Germany

**Exhibitors**

Become part of the technical exhibition with more than 35 expected exhibitors together with AGC Plasma Technology Solutions, Fraunhofer Institute for Surface Engineering and Thin Films IST, OMT Solutions BV, PLASUS GmbH, robeko GmbH & Co. KG, Soleras Advanced Coatings BVBA, and TRUMPF Hüttinger GmbH & Co. KG. If we sparked your interest, please download the [exhibitor form](#) at <http://13.iccg.eu/en/exhibition> and send the signed application to info@iccg.eu.

## Preliminary Conference Program

The following pages show the preliminary conference program. Please note that the whole schedule is subject to change. For updated and more detailed information on the conference please visit the website <http://13.iccg.eu/en/program>.

March	23 Monday	24 Tuesday	25 Wednesday	26 Thursday			
Morning	Short courses	Technical exhibition	Session 1	Session 2	Session 4	Technical exhibition	Session 6
Noon							
Afternoon	Opening	Technical exhibition	Session 3	Session 5	Panel discussion	Technical exhibition	Company tours
	Introductory session						
Evening	Welcome reception	Industrial evening/Poster session	Conference dinner				

**Introductory Session** – Market and Business in the Field of Coatings on Glass and Plastics

**Session 1** – Advanced Vacuum Processes

**Session 2** – Atmospheric Plasma Processes

**Session 3** – Film Growth Metrology, Process Control, Simulation

**Session 4** – Energy Conversion, Lighting, Displays

**Session 5** – Optics, Sensors, Life Sciences, Packaging

**Session 6** – Architectural and Automotive Glazing

**Panel Discussion** – Future of Automotive Glass and Plastics with regard to Electromobility

## Poster Presentation, Poster Session, and Poster Prizes

The poster presentation will take place on Tuesday afternoon. Each poster will be presented by one of the authors within two minutes. The poster session will take place along with the industrial evening. The posters will be evaluated by all participants. The three best posters will be awarded at the conference dinner. In addition the "Hans Pulker Award" will be given to the best presentation of the whole conference.

## Technical Exhibition

The technical exhibition will be held from Monday to Wednesday in the foyer of the conference center giving companies and organizations the opportunity to present their equipment, products and services. Please sign up early to allow yourself the widest choice of booth position. Tickets for visiting the technical exhibition without the conference are sold separately and include catering.

## Call for Sponsors and Exhibitors

In addition to the exhibition, it is possible to sponsor the ICCG13 providing your company with maximum visibility to both key decision makers and researchers who participate in the conference.

## Preliminary Social Program

**Monday, March 23, 2020, 08:00 p.m. – 10:30 p.m.**  
ICCG Welcome reception, Conference Center Stadthalle

**Tuesday, March 24, 2020, 08:00 p.m. – 10:30 p.m.**  
Industrial evening, Conference Center Stadthalle

**Wednesday, March 25, 2020, 07:00 p.m. – 11:00 p.m.**  
Conference dinner, Waldhaus Oelper

## Company Tours

**Thursday, March 26, 2020**

**Tour A: Excursion to the Fraunhofer Institute for Surface Engineering and Thin Films IST (free of charge)**

On a tour through the laboratories you will get an impression of the work of the Fraunhofer IST in the fields of precision optics, simulation and modeling, large area coating, characterization of materials and layers, or atmospheric pressure plasma processes.

**TOUR B: Excursion to GXC Coatings GmbH (free of charge)**

After the conference you will have the opportunity to visit GXC Coatings GmbH in Goslar. It was established in June 2000 and is a leading company for nano-coating of transparent materials. Their business is the development, application, production and marketing of nano-coating materials according to an improved sol-gel-method to increase the functionality of glass and polymers.

## Accompanying Persons Program

The accompanying persons may participate at a number of excursions organized throughout the week of the conference to explore the history, culture, architecture, and landscape of the region around Braunschweig. Further information and the final schedule will be announced on the conference website <http://13.iccg.eu/en/program/accompanying-persons>. Please note that lunch is not included.

### TOUR 1, Monday, March 23, 2020

Guided historical city walk through Braunschweig, at least 20 persons, € 30.

### TOUR 2, Tuesday, March 24, 2020

Trip to the imperial city of Goslar, including a 50-minute bus transfer, at least 20 persons, € 80.

### TOUR 3, Wednesday, March 25, 2020

Trip to the "Autostadt" by Volkswagen in Wolfsburg, including a 40-minute bus transfer, at least 20 persons, € 80.

## Individual Tours

- Audio-visual city tour Braunschweig can be booked at the [tourist information Braunschweig](#), € 10.
- Visiting the [Herzog Anton Ulrich Museum](#). Admission and audio guide rental, € 12 (to be paid at the entrance).

Monday, March 23, 2020

## Short Courses

Chairman: Dr. V. Sittinger

08:30 a.m. – 02:15 p.m. Conference Center Stadthalle

Before the start of the conference itself experts will give educational lectures to provide fundamental and technological background information on specific conference topics regarding materials, processes and applications.

- **Glass Cleaning**  
Prof. Dr. Edda Raedlein, Technical University Ilmenau, Germany
- **Atmospheric Pressure Plasma**  
Dr. Kristina Lachmann, Fraunhofer IST, Germany
- **PVD**  
Prof. Dr. Bernd Szyszka, Technical University Berlin, Germany
- **Low Pressure Plasma Simulation**  
Dr. Andreas Pflug, Fraunhofer IST, Germany
- **Development of Coatings for Optical Sensing**  
Dr. Georg Ockenfuß, Viavi Solutions Inc., USA
- **Smart Glazing**  
Prof. Lars Osterlund, Uppsala University, Sweden

Monday, March 23, 2020

## Opening – Welcome Address

### Introductory Session – Market and Business in the Field of Coatings on Glass and Plastics

Chairmen: Dr. K. Suzuki, J. Vitkala

The introductory session will provide market and business information and clarify future technical requirements.

- **Future Automotive Glass and Plastics**  
Michael Robinson, Italy
- **Integration of Flexible Solar Cell on Car Body**  
Dr. Taizo Masuda, Toyota Motor Corporation, Japan
- **Contributions of Coatings to the Future of Mobility**  
Prof. Dr.-Ing. Christoph Herrmann, Fraunhofer IST, Germany
- **Flexible Glass for High Throughput Electronic Device Processing**  
Sue C. Lewis, Corning, Inc., USA
- **Coating Technology and Autonomous Driving – Radar Glass and its Potential for Easier Radar Sensor Integration in the Future**  
Holger Meinel, Independent Consultant, formerly with Daimler AG, Germany

## Welcome Reception

08:00 p.m. – 10:30 p.m. Conference Center Stadthalle, exhibition area

**Tuesday, March 24, 2020****Session 1 – Advanced Vacuum Processes***Chairmen: Prof. Dr. G. Bräuer, Dr. J. Strümpfel*

Keynote lecture      **High Density Plasma Processes**  
Prof. Dr. Tetsuya Yamamoto, Koichi University of Technology, Japan

Invited lecture      **Recent Developments in Ion Beam Sputtering**  
Dr. Carsten Bundesmann, Leibniz Institute of Surface Engineering (IOM), Germany

Invited lecture      **A Novel Plasma Enhanced Chemical Vapor Deposition Technology for High Speed and High Quality SiO<sub>2</sub> Coating on PET**  
Grégory Arnoult, AGC Glass Europe, Belgium

**Session 2 – Atmospheric Plasma Processes***Chairmen: Dr. J. Pütz, Dr. G. Schottner*

Keynote lecture      **Digital Decoration Using Inkjet Printing for Architectural Applications**  
Dr. Dieter Holzinger, TIGER Coatings GmbH & Co. KG, Austria

Invited lecture      **Adding Functionality to Glass Using On-Line Chemical Vapour Deposition Coating Technology**  
Dr. Kevin Sanderson, Nippon Sheet Glass Co., Ltd., UK

**Session 3 – Film Growth Metrology, Process Control, Simulation***Chairmen: Dr. E. Rudigier-Voigt, Prof. Dr. B. Szyzka*

Keynote lecture      **How Thin is Thin Film Photovoltaics?**  
Prof. Dr. Roland Scheer, Martin-Luther-University Halle-Wittenberg, Germany

Invited lecture      **Reactive Process Control by Peak Current Regulation in R-HiPIMS of Oxide Coatings**  
Dr. Tetsuhide Shimizu, Tokyo Metropolitan University, Japan

**Poster Presentation****Industrial Evening and Poster Session**

08:00 p.m. – 10:30 p.m.      Conference Center Stadthalle, exhibition area

**Wednesday, March 25, 2020****Session 4 – Energy Conversion, Lighting, Displays***Chairmen: Dr. M. Junghähnel, Dr. D. Bernt*

Keynote lecture      **Advanced Glass Cutting in Display Manufacturing Processes**  
Dr. Christoph Hermanns, MDI Advanced Processing GmbH, Germany

**Session 5 – Optics, Sensors, Life Sciences, Packaging***Chairmen: Dr. G. Ockenfuß, Mr. R. Shimshock*

Keynote lecture      **Advances in Additive and Subtractive Coatings on Glass for Augmented Reality Eyeglasses**  
Nada A. O'Brien, PhD, Facebook Technologies LLC, USA

Invited lecture      **An Implantable Multispectral Fluorescence Based Analyte Sensor for Continuous Glucose Monitoring**  
James Masciotti, PhD, Senseonics, USA

**Panel Discussion: Future of Automotive Glass and Plastics with regard to Electromobility**

Moderator      Prof. Günter Bräuer, Fraunhofer IST, Germany

Distinguished international panelists such as the automotive designer Michael Robinson or Prof. Dr.-Ing. Christoph Herrmann from the Fraunhofer IST will discuss major future trends in automotive glass and plastics with respect to innovative trends in design, functionality, sustainability, and new technologies.

**Conference Dinner**

07:00 p.m. – 11:00 p.m.      Waldhaus Oelper

Thursday, March 26, 2020

**Session 6 – Architectural and Automotive Glazing***Chairmen: Prof. Dr. S. Oktik, Dr. R. Thielsch*

Keynote lecture

**Glass Coater Hardware Requirements for Optimum Solar Control Product Performance**

Dr. Marcus Frank, Bühler Alzenau GmbH, Germany

**Closing****Company Tours**

01:00 p.m. – 05:00 p.m. Fraunhofer IST and GXC Coatings GmbH

**Call for Papers****Abstract deadline****August 31, 2019****Notification of acceptance****October 1, 2019****Submission of full papers****November 30, 2019**

The organizing committee invites all scientists, technologists, and managers to submit abstracts which will be considered as oral presentations or posters at the 13<sup>th</sup> ICCG. Please submit the abstract on the website <http://13.iccg.eu/en/abstracts>.

**Abstract Guidelines**

- The conference language is English.
- Abstracts should be objective and technical and based on data not published prior to the conference. The text must be no longer than 400 words and be without equations, figures or references.
- Authors should be aware that they will be obligated to prepare an extended version or a full paper if their abstract is accepted, submission due by November 30, 2019.
- The review of abstracts will be completed by October 1, 2019. A notification of acceptance along with further instructions will be sent to authors whose abstracts have been accepted for the conference. They will also be notified of the form in which their paper shall be presented, i.e. either poster or oral presentation.
- If an abstract is accepted, a full conference registration will be mandatory for the author in charge. The conference office should be notified immediately of any changes regarding the author in charge / presenting author or of a cancellation.

**Publication**

Authors whose abstracts are accepted will be requested to submit an extended version of their abstract or a full paper electronically (Deadline: November 30, 2019). Please note that it will be published in the conference proceedings as received without a refereeing process. Detailed instructions for the preparation of these papers will be provided to each author with the notification of acceptance.

## Accommodation

Braunschweig offers a wide range of accommodations with different price levels. The deadline for the hotel booking is February 1, 2020. There is no guarantee for later booking and room availability. An early hotel reservation is highly recommended, especially if you plan to stay the weekend. For booking please visit <http://13.iccg.eu/en/location/accommodation> or contact Braunschweig Stadtmarketing GmbH: [congress@braunschweig.de](mailto:congress@braunschweig.de)

## How to reach the Conference

### Conference location:

Stadthalle Braunschweig  
Leonhardplatz  
38102 Braunschweig

- **By airplane...** Hannover's international airport is about 70 km away from Braunschweig.
- **By train...** The Deutsche Bahn will bring you almost to our front door. The main station is a short walk away (5-10 minutes) from the conference center Stadthalle.
- **By car...** Travelling to the conference center Stadthalle Braunschweig by car is very easy and comfortable. The conference center is located close to the main station. You will find the Stadthalle or the main station sign posted throughout the city.



## Registration for the Conference and Payment Conditions

Please register on <http://13.iccg.eu> using one form for each participant. Once the confirmation of conference registration and the invoice are sent to registered participants, the conference registration becomes binding. Participants must proceed with the bank transfer after they have received the invoice, payable within 30 days. The invoice number and the participant's full name must be indicated on the transfer form. ICCG will send a confirmation of payment after receiving the conference fees.

## Conference Fees

Registration	till Dec. 1, 2019	till Feb. 15, 2020	from Feb. 15, 2020
Short courses <sup>a, e</sup>	€ 280	€ 300	€ 350
Full conference <sup>b</sup>	€ 850	€ 975	€ 1100
Day pass <sup>b</sup>	€ 390	€ 440	€ 490
Students (Full conference) <sup>b, d</sup>	€ 350	€ 400	€ 450
Students (Presenting a paper) <sup>b, d</sup>	€ 275	n/a	n/a
Accompanying person <sup>c, e</sup>	€ 200	€ 225	€ 250

<sup>a</sup> Small lunch and coffee break included

<sup>b</sup> Lunch, coffee breaks, and social events included

<sup>c</sup> Fee includes all social events

<sup>d</sup> Short courses included

<sup>e</sup> Proceedings not included

- All prices are quoted and payable in €.
- Only students up to the age of 27 qualify for the student's fee, please e-mail or fax a copy of a valid student card and your ID to the conference office.
- The full conference pass does not include admission to the short courses on Monday, March 23, 2020.
- The fee for the short courses includes a set of manuscripts and a coffee break.
- Fees for the accompanying persons program have to be paid separately.

## Cancellation

Cancellations have to be submitted in written form and have to be confirmed by ICCG. Cancellations received until December 15, 2020, the conference cost minus an administration fee of 150 € will be refunded. For cancellations after this date, no refunds will be given.



# ICCG13: Tickets Form

March 23-26, 2020, Braunschweig, Germany

Given name ..... Title: .....  Ms.  Mr.  Diverse  
Family name ..... Organization / company: .....  
Billing address .....  
Postal code ..... City / country .....  
Phone ..... Mobile .....  
E-mail ..... Fax .....  
Dietary options  vegetarian  pork-free

## Tickets

	till Dec. 1	till Feb. 15	from Feb. 15
<input type="checkbox"/> Short courses <sup>a,e</sup>	€ 280	€ 300	€ 350
<input type="checkbox"/> Full conference <sup>b</sup>	€ 850	€ 975	€ 1100
<input type="checkbox"/> Day pass <sup>b</sup> <input type="checkbox"/> Mon <input type="checkbox"/> Tue <input type="checkbox"/> Wed <input type="checkbox"/> Thu	€ 390	€ 440	€ 490
<input type="checkbox"/> Students (Full conference) <sup>b,d,h</sup>	€ 350	€ 400	€ 450
<input type="checkbox"/> Students (Presenting a paper) <sup>b,d</sup>	€ 275	n/a	n/a

## Social program

Welcome reception  Industrial evening  Conference dinner

## Company tours

Fraunhofer IST  GXC Coatings GmbH  No tour

## Accompanying person ticket

Accompanying person ticket <sup>c, e</sup>

€ 200      € 225      € 250

Given name ..... Family name ..... Title: .....  Ms.  Mr.  Diverse

## Accompanying person's program<sup>a,f</sup>

Tour 1: Braunschweig (€ 30)  Tour 3: Autostadt (€ 80)  
 Tour 2: Goslar (€ 80)

I agree to you sending me by mail or by email information on a regular basis about the activities, events and services of ICCG e.V. and its partners. I can revoke my permission at any time by sending an email to [noinfo@ist.fraunhofer.de](mailto:info@ist.fraunhofer.de).

I agree that my full name, email address, and company name will appear on the attendance list distributed to all participants. I can revoke my permission at any time.

## The following agreement is necessary for your registration:

I agree that ICCG e.V. and its partners organizing ICCG13 are allowed to save my data for conference related purposes. Your data is treated confidentially and for this purpose only. I can revoke my permission at any time.

I hereby register for the conference and confirm that I have read and agree to the terms and conditions: Fax +49 531 2155-900, [info@iccg.eu](mailto:info@iccg.eu)

**Date / signature** .....

<sup>a</sup> Small lunch and coffee break included <sup>b</sup> Lunch, coffee breaks, and social events included <sup>c</sup> Fee includes all social events

<sup>d</sup> Short courses included <sup>e</sup> Proceedings not included <sup>f</sup> Lunch not included <sup>g</sup> Minimum 20 persons <sup>h</sup> Up to the age of 27 providing a valid student-id

# STAY INFORMED AND SUBSCRIBE TO OUR NEWSLETTER!

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<http://13.iccg.eu>

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**March 23-26, 2020**

Conference Center

Stadthalle Braunschweig, Germany

Contact: [info@iccg.eu](mailto:info@iccg.eu)

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