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## Editorial Team

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# ABOUT IGSTC

COVID-19 pandemic has a significant impact on society and affected people all over the world, upended the ways of working. Year 2020 be recommended as the most challenging times in modern history. Post-pandemic landscape will look entirely different and there have been irreversible changes in how people work. The role of science & technology will be major in post-COVID era, be it in healthcare, renewable energy, AI, etc. IGSTC will also contribute to these and intends to take up initiatives and programme in the aforementioned thematic in future.

This period witnessed changes in the Governing Body of IGSTC. Mr Sanjiv Rangrass, Group Head - R&D, Sustainability and Projects, ITC Limited, Kolkata replaced the outgoing member Mr Anjan Das, CII in November. Ms. Andrea Frank, Head, Field of Action, Science and Research at Stifterverband was nominated in place of Prof Eberhard Abele, TU Darmstadt. IGSTC places gratitude towards the contribution of Mr Das and Prof Abele to IGSTC board.

Mr R. Madhan took over as the Director of IGSTC on 29th December 2020. Previously Mr. Madhan was associated with CSIR-NIO, Goa as Scientist and Head of the Marine Instrumentation Department. He also served as the Science Counsellor at Indian Embassy, Berlin during 2015-2018.

IGSTC Joint Scientific Committee for Call 2019 on Bioeconomy met virtually on 27-28 September 2020 to deliberate on the 2nd stage proposals for evaluation. Four projects were selected for funding after thorough discussions and scientific review. Three projects of Call 2014 projects under phase 2 on medical technology diagnostics tools underwent monitoring on 25th November 2020 to evaluate the progress and the deliverables in the projects.

2+2 Call 2020 on Additive Manufacturing was launched on 14th December 2020. The call will target innovative technologies in the area of AM and IGSTC is expecting good response to the call. A pre-call launch event was organized on 12th November bringing together key experts and policymakers from India & Germany to discuss about the current status and updates on Additive Manufacturing and how to put a successful 2+2 proposals. An online matchmaking platform was also launched by IGSTC to ease the process of finding partners in academia & industry for building a mutually beneficial consortium for long-term collaboration. IGSTC expects that all such initiatives will help the scientific community to leverage their technical expertise and accelerate their research from lab to market with the help of industries & bilateral collaboration.

A special call for bilateral virtual workshops was launched during this period. The Call has been launched in place of IGSTC Open Call for Workshops. As physical workshops are not possible, this call has been placed on hold. Three workshops under the special call are going to be organized in coming months on Innovative battery technologies, advanced automotive steels and superalloys for advanced thermal and solar plants.

IGSTC looks forward to the next year when the world starts to function in a normalized way. Also, the advent of vaccines for COVID-19 will significantly halt the march of pandemic. IGSTC will continue to proactively support our partners and on a broader scale the scientific community for betterment of science and ultimately to have a societal impact.



# Governing Body Members

Two Governing body members of IGSTC completed their tenure and they were replaced by Mr Sanjiv Rangrass, ITC and Ms Adnrea Frank, Stifterverband. A brief profile of them is presented below.



## Mr. Sanjiv Rangrass

Group Head - R&D,  
Sustainability and Projects  
ITC Limited

Mr. Sanjiv Rangrass was nominated to IGSTC Governing Body in November 2020. Sanjiv Rangrass is ITC's Group Head for R&D, Sustainability and Projects. Till June 2020 he was the Divisional Chief Executive of the Agribusiness Division for ITC Ltd. He joined the Company in 1982 after completing his B.Tech in Mechanical Engineering from IIT Kanpur.

He has spent 27 years in the Tobacco Business in various capacities in the Technical function across manufacturing units and was the GM Operations and then a Member of the Executive Committee. He also had a cross functional stint as General Manager, HR between 2001 to 2003.

He was appointed as the CEO of the Tobacco Agri SBU in 2010. In 2017, he became the Chief Executive Officer of the Integrated Agri Businesses Division headquartered at Guntur.

His core passion is in focusing on talent development, succession planning and mentoring. Several of his mentees have gone on to launch successful start-ups like Blackbuck, Zetwerk, Log 9, Zesty Kitchen, Vegro and Smitch where he has personally invested as an angel. Interest in Agriculture, Agtech and leveraging digital for the farming community resulted in him working for and launching the Echoupal 4.0 platform. He has led the company wise initiative on harmonizing the Supply Chains across multiple divisions along with Kearney as consultants and on Analytics in the Agri business with Mckinsey. With his vast experience covering Production, Engineering, HR, Projects, Supply Chain, Agriculture and digital over 4 decades, he is sought for his inputs and advice by the industry and the start-up eco system. He has also been a part of the team along with Mckinsey which anchored and supported the Expert Group for the Finance Commission of India to make recommendations to double Agri Exports from India.

He has been a former Board of Governors for IIM Shillong and is an active member of the Pan IIT Council. IGSTC welcomes Mr. Rangrass to the Governing Body.



### **Ms. Andrea Frank**

Head, Field of Action, Science and Research  
Stifterverband

Ms. Andrea Frank was nominated to IGSTC Governing Body in November 2020. Andrea Frank was born in Cologne, Germany in 1972. She studied regional sciences of North America, political sciences, sociology and German as a foreign language at the University of Bonn and at Mount Holyoke College (USA). She worked as a lecturer of the Robert Bosch Foundation at the University of Pécs, Hungary between 1999 and 2000.

Between 2000–2006 she worked for the German Rectors' Conference in Bonn and Berlin on issues in national and international higher education policy. Among other things she was responsible for higher education projects in South Eastern Europe (Albania, Montenegro, Kosovo), worked for the international department (focus on North America and developing countries) and developed projects in support of the national study reform ("Bologna-Process").

Since 2006 she is head of programs for Research, Transfer and the Dialogue between Science and Society. Since 2019, she leads the fields of action "Science and research" at Stifterverband. She is responsible, among other things, for the Transfer Audit – a strategy consulting format for universities and co-author of the "Gründungsradar", a survey which compares Higher Education Institutions' commitment for entrepreneurship education and start-up activities. She is member of different boards for the Federal Ministry of Education, the Federal Ministry of Economic Affairs and Energy and different universities focusing on entrepreneurship, knowledge exchange and innovation. She is also member of the University Council of Technical University of Applied Sciences in Ostwestfalen Lippe.

The Stifterverband is a private, non-profit initiative started by companies and foundations and is devoted to promoting improvements in the fields of education, science and innovation through funding, consulting and networking. With its 3.000 members from the business sectors and civil society, Stifterverband thrives to accelerate change in the education, science and innovation sector. IGSTC welcomes Ms. Frank to the Governing Body.

# Director, IGSTC



**Mr. Rajachandran Madhan**

Director

Indo-German Science & Technology Centre (IGSTC)

*Mr. Rajachandran Madhan has taken over as its Director to lead the bilateral Indo-German Science and Technology Centre (IGSTC) on 29 December 2020. He is looking forward to catalyze Indo-German Science & Technology partnerships to greater heights.*

*Mr. Madhan has been associated with development of marine instrumentation and autonomous underwater technology for oceanographic research at CSIR-National Institute of Oceanography (NIO) from 1991 to 2020. As a Scientist and Head of the Marine Instrumentation Department at CSIR-NIO, he has contributed in the development of several marine robots including Autonomous Underwater Vehicle (AUV)-MAYA, remotely operated surface vehicles and autonomous vertical profilers (AVP). He played a key role in transferring AUV and AVP technology know-how to industry and in commercialization of the same. Also played a major role in capacity building and popularizing marine robotics in India.*

*Mr. Madhan has served as the Science Counsellor at the Embassy of India, Berlin, Germany during 2015-2018. In that capacity, he ably facilitated, coordinated and contributed in enhancing bilateral cooperation between India and Germany. He played a major role in connecting scientists and academicians of India and Germany on several areas including clean energy, next generation batteries, high energy physics, marine robotics, biotechnology, molecular biology, space research, climate research, education and sustainable studies. He contributed significantly in connecting German institutions (including Fraunhofer, Leibniz, Helmholtz, Max Planck Institutes, TU9, Excellence Initiative Universities) with Indian counterparts (including CSIR, DBT, DST, MoES, ICAR, IISc, IITs).*

*His experience with international partners includes work with the Institute for System and Robotics (ISR), Instituto Superior Técnico (IST), Lisbon through the Indo-Portuguese bilateral project on marine technologies and the Monterey Bay Aquarium Research Institute, California through the POGO-SCOR fellowship.*

*He is the recipient of the Meritorious Invention Award from the National Research Development Corporation (NRDC), Ministry of S & T, New Delhi for "Autonomous Vertical Profiler (AVP)" for the year 2010. He is a Fellow of the Institution of Engineers, India.*

*His research career following the Electrical & Electronics Engineering degree from REC, Calicut and Master's degree in Power & Energy systems from REC, Surathkal has resulted in several publications in journals and conferences in addition to international patents.*

*IGSTC welcomes him and wishes a successful tenure.*

# 2+2 PROJECTS

There are 20 projects of IGSTC which are on going at current time.  
A brief of two of the projects is presented below.

## HERCET

**Development and validation of a cost-effective hybrid electric drive solution for small two wheelers for reducing CO<sub>2</sub> emission**

### PROJECT INVESTIGATORS



**A Ramesh**  
IIT Madras



**S J Dhinagar**  
TVS Motor Company, Hosur



**Jakob Andert**  
RWTH Aachen University, Aachen



**Lars Posdena**  
VEMAC GmbH & Co KG, Aachen

The Goal of the HERCET (Hybrid Electric drive for Reducing CO<sub>2</sub> Emission in Two-wheelers) research project is to develop and validate a low-cost hybrid electric drive topology for a two-wheeler in order to enable low CO<sub>2</sub> emissions, excellent driving characteristics and a cost-efficient solution simultaneously. The project includes a simulation study to evaluate different hybrid topologies, the development of a hybrid control unit including the control software as well as the integration into a prototype vehicle to validate the concept. The hybrid system should enable a 25% reduction of CO<sub>2</sub> emissions compared to a conventionally driven two-wheeler, while offering equivalent driving performance at reasonable additional costs. The project is partnered by IIT Madras, TVS Motors on

Indian side & RWTH Aachen & VEMAC GmbH on German side.

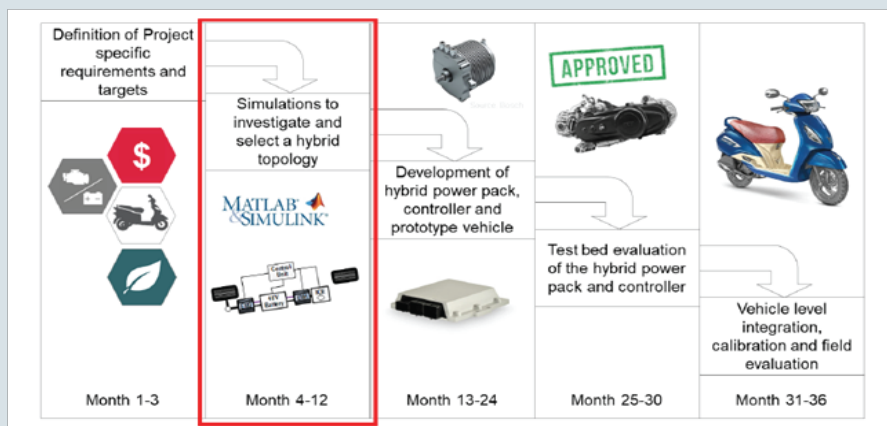
TVS Motors is responsible for the integration of the hybrid system into the prototype vehicles, and IIT Madras will manage the test bench investigations of the internal combustion engine as well as the development of a detailed 1D engine model. VEMAC will focus on the development of a hybrid control unit and RWTH Aachen University will be responsible for vehicle as well as hybrid topology simulation and function development. The project kick-off meeting took place virtually on April 1st 2020 initiating the project with a total duration of 3 years.





*Virtual project meeting in summer 2020*

The project is divided into five sequential phases as shown in the figure below. In the concept and specification phase, different hybrid layouts were developed on a schematic level. Furthermore, specific development targets and requirements were defined by which the topologies were evaluated to clarify the most promising concepts for further investigations. In the current second project phase, detailed simulation models of these identified concepts are developed utilizing data from all project partners. The target of this project phase is the determination of the final concept, which will be build up in the final project phase as a prototype vehicle. Before, hardware and software development as well as test bench evaluation are performed in the third and fourth phase.



*Schematic overview of the five project phases.  
The red box represents the current phase.*



## CO<sub>2</sub> BioFeed

### CO<sub>2</sub> and Biomass as Feedstock for the Production of Energy Carriers and Chemical Intermediates

#### PROJECT INVESTIGATORS



**Asim Bhaumik**  
Indian Association  
for the Cultivation of  
Science, Kolkata (IACS)



**Biswajit Chowdhury**  
IIT (ISM) Dhanbad



**Praveen K Chinthala**  
Reliance Industries Ltd. (RIL)  
Jamnagar



**Thomas Ernst Müller**  
Ruhr-Universität  
Bochum (RUB), Bochum



**Jens Hannes**  
RWE Power  
Aktiengesellschaft  
Essen



**Gernot Nell**  
Parr Instrument GmbH  
Frankfurt

In this 2+2 project, the consortium of academic and industry partners from India and Germany works on using CO<sub>2</sub> and biomass as feedstock for the production of energy carriers and high value chemical intermediates like useful olefins. The key to the new process will be the use of CO<sub>2</sub> as building block and oxidation agent.

Joint project meetings: After a kick-off meeting in spring and numerous bilateral meetings, a virtual project review meeting was held on 4th December 2020 (Figure below). The consortium is highly grateful to Dr. Asit Das, Head of Refining R&D (RIL) to have given the opening speech to the virtual project meeting. Prof. Thomas Müller, PI, Ruhr-Universität Bochum (RUB) and his team Dr. Berthold Fischer, Mr. Kai Laichter, and Dr. Suman Sen along with Dr. Jens Hannes, Dr. Thorsten Liese,

Dr. Frank Buschsieweke (RWE) and Mr. Gernot Nell (Parr Instruments, Germany) from the German side then interacted with the Indian collaborators Prof. Asim Bhaumik (IACS), Prof. Biswajit Chowdhury (IIT-ISM), Dr. Praveen Kumar Chinthala and Dr. Divakar Duraiswami (RIL). Details on the background of the collaborators and the ongoing activities in the groups were shared. The status of the project, work plan, methodology and future course of action with collaborators roles, responsibilities and mutual support were emphasized profitably. Key steps involving the development of novel catalysts and the built-up of the necessary setups for process development were also discussed.



Virtual project review meeting of the consortium

Berty-reactor that were connected to the necessary infrastructure at RUB (Figure below). The online analytics was devised together with a third-party supplier. The setup was assembled and commissioned with cold and hot test runs. As a benchmark, the methanol synthesis from synthesis gas was successfully accomplished. Also, in India, the instrument procurement activities started through online process as per Govt. of India purchase procedure at IACS Kolkata as well as IIT (ISM) Dhanbad. RIL's high pressure fixed bed reactor is ready for performance evaluation. Discussions with various vendors are in progress to upgrade the unit. Further, RWE and RUB joined in discussing the safety concept necessary for any test runs on the pilot-plant scale.



Fixed Bed reactor

**Catalyst development:** The Indian partners from IACS, IIT (ISM) and RIL have synthesized a series of novel nanomaterial-based highly active catalysts. The first batch of catalysts has been sent to RUB, Germany. The performance of these catalysts will be evaluated by the German partners in RUB for epoxidation and carboxylation reactions. A second batch of catalysts is currently being developed at IIT (ISM) in collaboration with IACS and RIL.

**Process development:** In parallel, RUB and Parr devised a setup for catalyst testing and process development. For this, Parr supplied a fixed-bed reactor and a

**Dissemination:** Based on the literature survey a review article as well as a book chapter along with a research article based on pre-Covid-19 results have been published. The following publications are made during the period.

- Aerobic Oxidation of Styrene over Indium-Impregnated Mesoporous Silica: Distinctive Effect of Supports on Epoxidation Activity. Prangya Paramita Das and Biswajit Chowdhury, *Chemistry Select*, 2020, 5(38), pp. 11882-11889
- CO<sub>2</sub> Hydrogenation over Functional Nanoporous Polymers and Metal-Organic Frameworks Arindam Modak, Anindya Ghosh, Asim Bhaumik and Biswajit Chowdhury, *Advances in Colloid and Interface Science* (Accepted, 2020).
- Catalytic conversion of biomass derived glycerol to value added chemicals, Kushanava Bhaduri, Anindya Ghosh and Biswajit Chowdhury, Book Chapter, *Catalysis for Clean Energy and Environmental Sustainability* (Springer), 2020, Vol 1. Biomass Conversion, eBook ISBN978-3-030-65017-9

# Call 2014: Project Monitoring

The Meeting of the Project Monitoring Committee to review the progress of the IGSTC projects under the Call 2014 was held on 25th November 2020 through virtual mode. The Monitoring Committee was comprised of following experts Prof D Balasubramanian, L V Prasad Eye Institute (LVPEI), Hyderabad; Dr. G S Bhuvaneshwar, Former Head, Biomedical Technology Wing, SCTIMST, Trivandrum & Dr. Juergen Drescher, Coordinator Technology Marketing, German Aerospace Centre (DLR), Bonn. The Indian institutional and industrial partners presented the progress of the project for the last 12 months to the Monitoring Committee. The Committee reviewed the progress of all three projects and was satisfied with the progress of the projects and appreciated the outcomes & deliverables achieved in the projects.

## Project Title

**MIDARDI:** Microfluidic based detection of microbial communities and antibiotic responses in the management of diabetic foot ulcers

**SIBAC:** Next-generation dynamic Scheimpflug imaging and biomechanical analytics for in vivo quantification of corneal viscoelasticity

**Sound 4 All:** Re-engineering high-end audiometric devices for robust and affordable audiological testing

## Institutional Partner

Prof K Satyamoorthy Manipal University

Dr. Frank Bier  
Fraunhofer IZI

Dr. Andreas Morschhauser  
Fraunhofer ENAS

Dr. Abhijit Sinha Roy  
Narayana Nethralaya Foundation

Dr. Dinesh Kalyanasundaram  
IIT Delhi

Dr. Kapil Sikka & Dr Amit  
Chirom AIIMS Delhi

Dr. Werner Hemmert  
Technical University of Munich

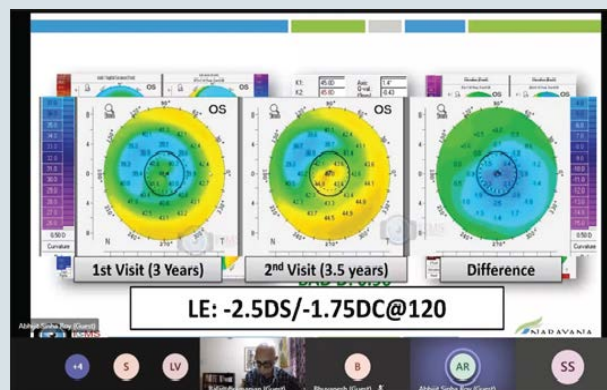
## Industrial Partner

Mr. Dhananjaya Dendukuri  
Achira labs

Dr. Joerg Nestler  
BiFlow Systems GmbH

Mr. Sven Reisdorf  
OCULUS Optikgerate GmbH

Dr. Thomas Rosner  
PATH GmbH





# Call 2019: Joint Scientific Committee and Due-Diligence Meetings

The Call 2019 for 2+2 project proposals was based on the thematic topic of Bioeconomy with the sub-topics: 1) Future agricultural farming 2) Logistics in agriculture supply chain and 3) Technologies for sustainable and improved agricultural production. Proposals shortlisted in Stage 1 of the Call were called for a detailed presentations and discussions at the Joint Scientific Committee meeting organized virtually on 27-28 September 2020. After scientific deliberations, four projects were recommended for funding.

## Project Title & Acronym

Circular urban cultivation systems with re-useable textile growing substrates (CirCulTex)

Development and evaluation of automated sensors for a highly-efficient nutrition management system in indoor vertical farming (Sensvert)

On-site multi ion monitoring system for on-line nutrient-laden water control in vertical hydroponic systems to minimize environmental impact (AutoNurti)

Non-enzymatic microfluidic electrochemical multiplex sensor for cost-effective soil testing (NOMIS)

## Indian Partners

Harshata Pal  
Amity Univ. Kolkata  
Sanjit Debnath  
BCKV, Nadia  
Suhrid Chandra  
HariMitti Agro P. Ltd, Kolkata

Murtaza Hasan  
IARI, New Delhi  
Shivendra Singh  
Barton Breeze P. Ltd., Gurgaon

Uday Annapure  
ICT Mumbai  
Vishal G Warke  
HiMedia Lab. P. Ltd.

Gorachand Dutta  
IIT Kharagpur  
Amit Rastogi  
Coromandel Int. Ltd.  
Secunderabad

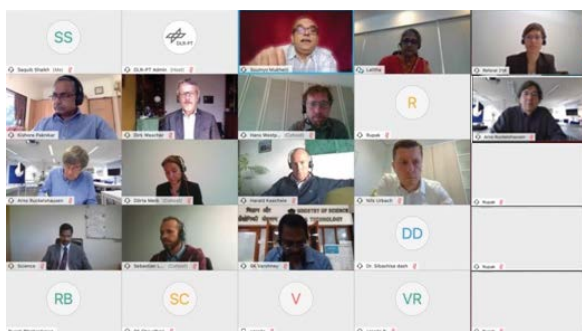
## German Partners

Bastian Winkler  
Univ. of Hohenheim  
Christoph Riethmueller  
DITF Denkendorf  
Michael Walz  
Eschler Textil GmbH, Balingen

Heike Mempel  
HSWT, Freising  
Mohamed Bourouah  
Hahn-Schickard,  
Villingen-Schwenningen  
Georg Bruckner  
Sondermaschinenbau  
rückner GmbH, Marktgraitz

Karin Potje-Kamloth  
Fraunhofer IMM, Mainz  
Oliver Stegen  
RM Geraetebau, Reinhrim

Bernhard Wolfrum  
TU Munich  
Joachim Wiest  
cellasys GmbH, Kronburg



Funding of the selected consortia follows the national funding rules of India and Germany. Indian funding is finalized through a due-diligence process and the German partners went through a similar evaluation process performed by DLR P Management Agency. The Due-Diligence Committee consisting of Scientific Committee members Prof K M Paknikar, Agharkar Research Institute; Prof Soumyo Mukherji, IIT Bombay and Mr Pravin Gupta, Financial Consultant, IGSTC met virtually on 17th December 2020 to finalise the exact financial requirements for the Indian partners of the consortium.

# 2+2 Call 2020: Additive Manufacturing

## IGSTC Virtual Event on Additive Manufacturing

IGSTC has launched its Call 2020 on Additive Manufacturing (AM) on 4th December 2020. To promote the Call, a pre-launch virtualnet working event on Additive Manufacturing was held on 12th November. Leading experts from academia & industry highlighted the area of Additive Manufacturing in different facets. Dr. G Padmanabhan, Director, ARCI inaugurated the session. He described the research activities of ARCI in AM and presented an overview of different opportunities where researchers can ponder upon. Prof Sanjay Dhande, Former Director, IIT Kanpur talked about the current state of art in AM in India. Dr. Thomas Studnitzky, Fraunhofer Institute for Manufacturing Technology and Advanced Materials presented a brief overview of the AM research landscape in Germany. Prof K P Karunakaran, IIT Bombay described eloquently on the aspect of Academia-Industry interface in Additive Manufacturing. He also highlighted the successful technologies transitioned from his lab to industries. One of the most interesting talk of the event was by Prof. Cameron Tropea, TU Darmstadt (Coordinator of IGSTC project PPAM: Metal Powder Production for Additive Manufacturing) on how to run a successful 2+2 project. He advised the participants on various aspects of the 2+2 nature of partnership including budgeting, bilateral cooperation and intercultural learning through joint research. Akos Foder from SLS 3D Germany offered insights into a hands-on application of additive manufacturing by presenting an example of how his company supported a hospital which was in need of FFP3 masks during the first wave of the Covid-19 epidemic to print valves for these masks within a couple of days. The session concluded with a lively panel discussion about "IGSTC perspective: Academia-industry bilateral collaborations" comprising of experts and moderated by Mr. A Chakraborty, Scientist 'H' & Head - HRDG, CSIR.

The event attracted more than 400 registrations and more than 100 participants were present at any given moment of the event. Participants from national labs like CSIR, IITs, Central universities, Fraunhofer institutes, TUs were present.



## Online Networking & Pitching Session

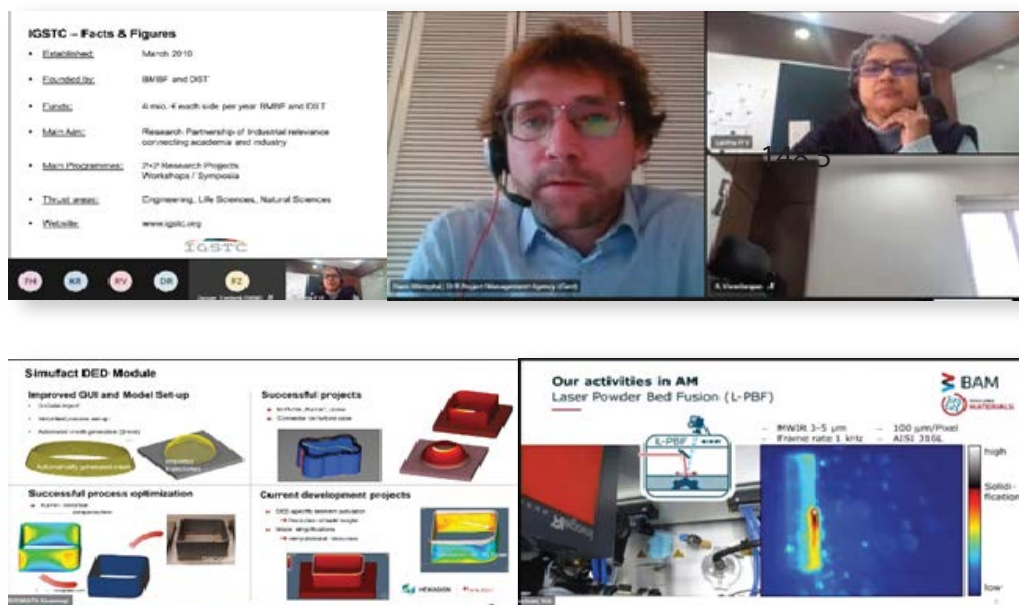
After the launch of 2+2 Calls, IGSTC secretariat frequently receives pre-submission queries regarding the search for suitable partners and the formation of a proper consortium with complementary expertise. To support the search for consortium partners, a match making platform (B2Match) was set up for the current call on Additive manufacturing so that users from academia and industry can network to build mutually beneficial collaborations. Users have to create a profile which covers their expertise, company or organization profile and areas of interest in the broad field of Additive Manufacturing. In addition, users can make use of the so-called marketplace where project ideas or the description of a specific expertise can be described and requests for specific expertise in potential partners can also be requested. If there is a match meeting with the potential partners can be requested and scheduled. These can then be realized through a build-in web conferencing function.

Moreover, the applicants were able to present their research ideas/concepts through two online pitching sessions which were integrated into the B2Match platform.

A pitching session was held on 16th December 2020. Participants presented their ideas for partnerships in 5 minute pitches.

IGSTC expects that the use of B2Match and online Pitching Events will ease the process of finding research partners and help in constructing a strong long-term Indo-German R&D collaboration.

To visit the Additive Manufacturing Matchmaking Tool, please go to: <https://igstc-2020.b2match.io/>





## IGSTC 2+2 Call 2020

Indo-German Science & Technology Centre (IGSTC), established by the Department of Science and Technology (DST), Government of India, and the Federal Ministry of Education and Research (BMBF), Government of Germany to promote research partnership of industrial relevance invites First Stage Proposals for joint R&D&I projects of industrial relevance in 2+2 Mode of Partnership in the thematic area Additive Manufacturing with subtopics

- New Materials for Additive Manufacturing
- Printed and Wearable Electronics
- Large scale Additive Manufacturing
- In situ Process Monitoring and Control
- 3d printing processes for biomedical devices and implants

**Deadline for Submitting First Stage Proposals: 25th February 2021**

### 2+2 Mode of Partnership

IGSTC intends to catalyse innovation centric R&D&I projects by synergising the strength of research/academic institution and public/private industry from India and Germany. This Call for proposals is aimed at supporting joint R&D&I projects of industrial relevance by means of "2+2 Mode of Partnership" i.e. involvement of at least one research/academic institute and one public/private industry from both the countries.

### Evaluation

IGSTC will execute a two-step evaluation process. Initially applicants have to submit a First Stage Proposals followed by an evaluation by the Joint Scientific Committee.

In the second step, shortlisted consortia will be invited to submit a more detailed Second Stage Proposal.

Each evaluation step might take up to two to three months time.

### Funding Support

Funding will be provided in the form of grants amounting up to € 450.000 per project for German applicants and up to ₹230 Lakhs per project for Indian applicants, for a period of up to three years, to cover project related costs including manpower. An additional funding period of up to two years maybe granted in exceptional cases.

### Who can Apply

To apply, applicants have to build a consortium (minimum 4 partners) consisting of one research / academic institute and one public / private industry from both India and Germany. Applicants from public and private non-profit research organisations, public and private institutions of higher education, universities and public or private companies having R&D bases are eligible to partner an application. Principal investigators should be holding a regular/permanent position. Applications from SME's are encouraged.

### How to Apply

The Basic Guidelines and the First Stage Proposal format can be downloaded from the website [www.igstc.org](http://www.igstc.org). The project proposal should be submitted online using pt-outline: [https://ptoutline.eu/app/igstc\\_ind20igczlatest](https://ptoutline.eu/app/igstc_ind20igczlatest) by 25th February 2021.

Find Your Partner

In the context of the above Call, IGSTC has launched a Virtual Matchmaking platform (B2Match) for prospective applicants to search for suitable industrial and academic partners (both in India & Germany).

B2Match platform - <https://igstc-2020.b2match.io/>

Prospective applicants are requested to register on B2Match platform and encouraged to create a meaningful profile for effective matchmaking.

# Special Call for Indo-German Bilateral Virtual Workshops

In the current COVID-19 pandemic scenario, as physical workshops & networking are restricted, IGSTC launches a special call on bilateral Virtual Workshops. IGSTC will resume the physical workshops through Open Call Workshop programme as soon as the situation becomes normal.

The Indo-German Science & Technology Centre (IGSTC) invites proposals for organising Indo-German virtual workshops on areas of mutual interest with an aim towards creating platforms for substantive interactions between scientists / researchers from academia and industry. The workshops are to be designed around a specific research topic out of thematic areas relevant to both DST and BMBF. Any other relevant topics of very high importance may also be considered. Proposals with a potential for generating follow up activities including joint projects are preferred. Training workshops as well as meetings between two institutions do not fall under the scope of this call.

## About IGSTC

The Indo-German Science & Technology Centre was established by the Government of India (DST) and Government of Germany (BMBF) to facilitate bilateral science and technology networking and to play a proactive role in catalysing institute - industry cross-border partnerships through joint R&D efforts. IGSTC envisions to:

- Advance industrial research partnership with mutuality of interest and respect
- Create platform for cross fertilization of ideas
- Develop knowledge networks for industrial sectors to enhance competitiveness
- Establish joint knowledge pools to address global challenges
- Serve as a nerve centre to promote Indo-German technology partnership

## Who can Apply?

Persons holding regular positions in public or private non-profit research organisations, institutions of higher education and universities are eligible to submit applications.

Type and Extent of Support

Event costs limited to support for the license fee and designing of soft brochures.

## Conditions

- Participation of relevant industries is expected.
- A detailed draft program including a list of the expected participants has to be submitted along with a brief background document illustrating the importance of the workshop.
- Involvement of young scientists is highly recommended.
- It is expected that the workshop participants belong to various institutions.
- The utilisation of IGSTC format is mandatory for the application.
- IGSTC banner should be displayed in prominent places.

## Guidelines

Proposals should be submitted electronically as a single Word or PDF document according to the guidelines Workshop format

## Evaluation

Proposals submitted will be evaluated by an Indo-German Committee considering:

- Compliance of the thematic area to the portfolio of DST and BMBF.
- Scientific scope and novelty
- Scientific credentials and competitiveness of the participants, hailing from various institutions
- Presence of topic experts in the participants list
- PAN-India/Germany presence of participants
- Number of participants from the industry

# German Days - Digitales 2020

IGSTC participated in the "Panel discussion: Opportunities for Collaboration between Industry and Research Institutes in India" on 7th October 2020. This panel was a part of the event 'German Days- Digitales 2020' of DWIH New Delhi's partner Indo-German Chamber of Commerce. The entire event took place from 3rd - 7th October 2020. The event was a digital series of presentations and discussions and aims to showcase the myriad facets of Germany in the fields of Business, Education, Tourism, Sport and Lifestyle. It intends to promote and further strengthen commercial and cultural ties between the two countries. Dr P.V. Lalitha was the panelist from IGSTC. She described endless opportunities of academia & industry R&D collaboration through the lens of 2+2 projects implemented by IGSTC.

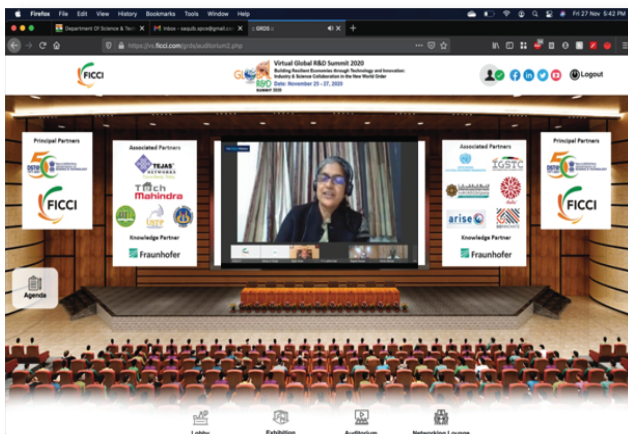




# IGSTC at Global R&D Summit

The virtual Global R&D Summit was organized by the Department of Science & Technology (DST) & the Federation of Indian Chambers of Commerce & Industry (FICCI) between 25th -27th November 2020. IGSTC was an associate partner in the summit. The Global R&D Summit was an annual flagship event of the Federation of Indian Chambers of Commerce and Industry (FICCI) organized in partnership with the Department of Science and Technology, Government of India. The theme of the Summit was 'Building Resilient Economies through Technology and Innovation: Development Partnerships in the New World Order'.

Dr P.V. Lalitha was a panelist in the session "Technology creating new business opportunities: Agritech". Technology and R&D Heads, Corporate Chief Strategy Officers, S&T Advisors, S&T Professionals, Scientists, Government R&D Institutes and Labs, Academia, Tech Start-ups, etc. participated in the session.



# Indo-German Research Days

IGSTC participated in Indo-German Research Days organised by DWIH New Delhi on 3rd December 2020. This event showcased the research landscape of Germany and present opportunities available for research, funding lines for individuals and projects for joint research facilitated by Indian and German agencies.

It brought together researchers, science managers and stakeholders of the field, from India and Germany for exchange of information and discussions on topics and mechanisms to increase the current cooperation. IGSTC had a virtual booth which attracted more than 300 unique visitors from different Indian & German institutes. Mr Hans Westphal, Senior Scientific Officer, DLR-PT participated in the panel discussion on "How to fund Indo-German research projects?"



# Indo-German Science & Technology Centre

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