Dec, 2019

e-Newsletter - Issue 12/2019 FRAUNHOFER INDIA - THE YEAR THAT WAS

The year 2019 was an exciting year for Fraunhofer Office India. Fraunhofer's model of tech-innovation-development has led to major project acquisitions and a successful Indo-German bilateral R&D cooperation that has eventually added to Fraunhofer's increased demand and overall value in the Indian market.

We would also like to look forward to the exciting opportunities that are emerging in India like Artificial Intelligence, Battery Technologies, Sustainable Building Technologies, Wastewater and Solid Waste Management Technologies, Advanced Production

Technologies. We look forward to 2020 to be an even more dynamic year for Fraunhofer in India. - Ms. Anandi Iyer, Director, Fraunhofer Office India

A quick glance: Highlights 2019







Tool Exhibition (IMTEX 2019). Fraunhofer also organized a conference on 'Factory of the Future' and showcased its Factory of the Future model. Fraunhofer institutes IWU and IPT participated and showcased their competencies along with select exhibits in light -weight materials, additive manufacturing, industrial process automation, human-machine interaction, autonomous systems, digital twins etc.

2. Feb 5th 2019: Ms. Anandi Iyer met with Prof. Dr. Andreas Pinkwart, State Minister of Economic Affairs, Innovation, Digitalization and Energy of North Rhine-Westphalia to discuss the activities of Fraunhofer in Digitalization during the seminar on 'Digital Transformation in Germany' organized by the Indo-German Chamber of Commerce (IGCC) in Bangalore.



3. Feb 18th 2019: Visit of Mr. Maximilian Trommsdorff, Fraunhofer ISE to India for the meetings with potential clients to explore cooperation for development of Agro-PV model w.r.t feasibility study and pilot projects. 4. Feb 18th 2019: Fraunhofer receives 'Global Top 51 Smart City Leaders Award' at World CSR Day in Mumbai. Fraunhofer's recent

Congress. Ms. Anandi Iver received the award on behalf of Fraunhofer.

strides in Smart Cities, particularly in Kochi, Coimbatore and Solapur, were recognized by the international juries of World CSR 5. Feb 19th 2019: Mr. Aditya Fuke from Fraunhofer Office India delivered presentation on 'Smart & Sustainable Cities: Morgenstadt Approach' at Indo-German Summit on Green Building and Sustainable Energy - 'Eco-technological and Digital Solutions for Smart Cities' organized by Rajagiri School of Engineering and Technology (RSET), Kochi. 6. Mar 4th - 5th 2019: Fraunhofer Office India coordinated visit of a high-level delegation of Council of Scientific and Industrial Re-

and water conservation and energy efficient buildings for developing collaborative R&D proposals.

search (CSIR), Govt. of India to Fraunhofer Institutes IGB, IPA and IBP to identify specific research topics of mutual interest in additive manufacturing, coatings, image processing, lightweight construction technologies, functional materials, membranes, energy

ing the Sun for Power and Food' during RenewX 2019 - Conference on Renewable Energy (RE) Technologies in South India. 12. Apr 29th - May 1st 2019: Visit of Dr. Torben Seemann of Fraunhofer Project Centre Wolfsburg (Fraunhofer IFAM) to India as a speaker on 'Light-weight design and Electro-mobility' in the Conference 'Light Weighting' organized by Automotive Component

15. May 15th 2019: Mr. Aditya Fuke from Fraunhofer Office India participated in the panel discussion on 'Enabling protected busi-

Fraunhofer Institutes SCAI, IAIS, FIT and IPT to discuss the applications of Artificial Intelligence in medicine and drug research with Fraunhofer. 17. June 28th - 29th 2019: Ms. Anandi Iyer, Fraunhofer Office India delivered the inaugural address in 1st International Conference on Industry 4.0 and Advanced Manufacturing (I-4AM 2019), organised by the Centre for Product Design and Manufacturing,

18. July 1st 2019: Visit of Mr. Frank Müller-Rosentritt - Member of Parliament-Germany to Fraunhofer Office India to understand

19. July 22nd - Aug 1st 2019: Dr. Eckart Bierduempel from Fraunhofer HO led a delegation of 13 experts from various Fraunhofer Institutes namely IBP, IGB, IFAM, IPA, IPT and ISE to India, who conducted technical workshops at four CSIR Institutes in the areas of Battery Technologies, Water Management, Sustainable Building Technologies and Advanced Production Technologies from July 22nd to 30th 2019. This was followed by a final joint workshop on "Indo-German collaboration in Research and Innovation towards Leapfrogging in Frontier Technologies" on Aug 1st 2019 in New Delhi to elaborate the project ideas developed during the technical workshops held at four CSIR institutes, and present them to the Industry, Government and other stakeholders. The

22. Aug 21st - 23rd 2019: Visit of Dr. Matthias Vetter of Fraunhofer ISE to participate as a speaker in 10th World Renewable Energy Technology Congress, organized by Energy and Environment Foundation in New Delhi. He delivered a presentation on "Battery Storage and their Stationary Applications" in the session "Energy Storage - Electric Vehicles - Charging Infrastructure". 23. Aug 26th - 31st 2019: Visit of Fraunhofer IEE for Training Programme on RE Grid Integration (Renewable Energy Management Centre REMC), at National Power Training Institute (NPTI), Govt. of India under GIZ - "Technical Cooperation with India in Green Energy Corridors" project.

and discuss the measures that CSML should embrace against climate change.

ja Karliczek, Federal Minister for Education and Research, Govt. of Germany.

Confederation of Indian Industry (CII).

rum (IGEF) during Intersolar 2019 in Bangalore.

Dec 10th 2019: Meeting with Meeting with Anna Roy, Sr. Adviser, Niti Aayog

Dec 20th 2019: FICCI's 92nd Annual Convention on "India: Roadmap to a \$5 Trillion Economy

on Al.





31. Nov 18th - 19th 2019: Morgenstadt: Global Smart Cities Initiative of Fraunhofer IAO and University of Stuttgart had organized

34. Nov 29th 2019: Ms. Anandi lyer, Fraunhofer Office India delivered a presentation on "Examples of Best Practices of successful Indo-German cooperation in India" in the conference on "Culture Fit - German and Indian SMEs", organized by Maratha Chamber of Commerce, Industries & Agriculture (MCCIA), Goethe Institute and Consulate General of Federal Republic of Germany in Mumbai. Important Meetings in Dec 2019

Ms. Anandi Iyer, Director, Fraunhofer Office India met with Dr. Jasper Wieck to discuss the strategic cooperation between Fraunhofer and Council of Scientific and Industrial Research (CSIR), Govt. of India in applied research in Battery Technologies, Water

Dec 02nd 2019: Meeting with Dr. Jasper Wieck, Deputy Chief of Mission, Embassy of the Federal Republic of Germany

32. Nov 20th - 22nd 2019: Ms. Anandi Iver represented Fraunhofer Office India in "Futuras in Res 2019 What's the IQ of AI?" organized by Fraunhofer HQ in Berlin. She had coordinated the participation of Prof. Padmanabhan Anandan, CEO, Wadhwani AI,

33. Nov 28th 2019: Mr. Sanmati Naik, Fraunhofer Office India participated in the panel discussion on "Potential of AgroPV in India - Opportunities for Indian Industry", organized by National Solar Energy Federation of India (NSEFI) and Indo-German Energy Fo-

who was one of the speakers in the panel on "Empathy & Human-Machine-Interaction" in this conference.

galore at Fraunhofer Office India. Jan 13th - 24th 2020: On-site assessment in Kochi Project coordination team of Fraunhofer IAO of the project 'Kochi Smart City Innovation Lab' would be visiting Kochi to conduct city analysis and interview some key stakeholders. Jan 23rd - 28th 2020: Indian Metal Forming Exhibition (IMTEX) 2020, Bangalore Indian Metal Forming Exhibition (IMTEX) is organized by Indian Machine Tool Manufacturers' Association (IMTMA) in Bangalore. IMTEX is a flagship event for the Indian metal cutting industry organized once a year. It is South and South East Asia's apex exhi-

bition showcasing the latest trends as well as technological refinements from India and other global players. The mega event attracts visitors from a wide spectrum of manufacturing and ancillary industries including key decision and policy makers as well as industry captains who are keen to source latest technologies and manufacturing solutions for their product lines. For the last 6 years, Fraunhofer has been showcasing its capabilities in Lightweight technologies in Automotive components, forming technolo-

The Flagship event of the Fraunhofer - Fraunhofer Innovation and Technology Platform (FIT), held once in **FOCUS AREAS** every two years focuses on different thematic fields and showcases Fraunhofer's cutting edge technologies, innovations and futuristic solutions, and is typically attended by more than 200 delegates from India and **AGRICULTURE** abroad. It is conceptualised to draw attention to the topics

Automobile: Firmly in the grip of a slowdown De-growth in auto sector expected to fall to 3% Auto stocks surge on value buying, demand revival hopes

of skill, knowledge and how to successfully bring technology transfer particularly for the benefit of small and medium scale Enterprises in India. 9. Apr 3rd 2019: Fraunhofer participated in 'India Invest meet—New Business and Collaboration Opportunities in India', jointly organized by Department of Heavy Industry (DHI), Govt. of India and Engineering Exports Promotion Council (EEPC) at Hannover Messe 2019. Fraunhofer presented case studies of a successful R&D cooperation resulting in Investment for India in manufacturing sector and opportunities in R&D collaboration in manufacturing in India. ACMA Conference on Light Weighting 10. Apr 3rd 2019: Visit of the Urban Governance Innovation Team led by Ms. Marielisa Padilla Fraunhofer IAO to Coimbatore for a workshop with Coimbatore City Municipal Corporation (CCMC) and KfW to present the final results of the project "Coimbatore Smart City Innovation Lab", and solutions for improving urban mobility in Coimbatore. 11. Apr 26th - 27th 2019: Mr. Sanmati Naik from Fraunhofer Office India delivered a presentation on 'Agro-Photovoltaics: Harvest-Manufacturers Association of India (ACMA), New Delhi. (CSML), to define the sectors of focus for 'Kochi Smart City Innovation Lab' and draw out the critical areas of interventions. future readiness. ness growth and customer experience' in IT-SA Conference 2019, organized by Nuremberg Messe in Mumbai.

Industry 4.0 and Advanced Manufacturing".

activities of Fraunhofer in India.







27. Nov 2nd 2019: Visit of H.E. Dr. Angela Merkel, Chancellor of the Federal Republic of Germany to 63rd Annual General Meeting of the Indo-German Chamber of Commerce (IGCC). Fraunhofer was the "Innovation Partner" to the 63rd Annual General Meeting of the IGCC. Fraunhofer Office India also held a booth, featuring and showcasing its competencies in Artificial Intelligence, Industry 4.0, Smart City and Renewable energy through poster presentation. She also had an introductory meeting with Mrs. An-

28. Nov 15th 2019: Ms. Anandi lyer delivered a presentation on "Converting Research into Products" in the session on "Education-Research-Skills for Economic Growth" at EDU Summit - Reimagining the future of Higher Education organized by





Ms. Anandi Iyer, Director, Fraunhofer Office India met with Ms. Anna Roy discuss next steps of Fraunhofer's proposal on Industry 4.0 to NITI Aayog and to discuss partnership with NITI Aayog for 6th Fraunhofer Innovation and Technology Platform (FIT): Focus

FICCI Annual Convention is a flagship event where several Government Ministers, Secretaries to Govt of India, Captains of Indus-

gy and additive manufacturing along with select exhibits at IMTEX, and every year, Fraunhofer has received a constructive reciprocation for its capabilities from the organizers IMTMA. This will be an ideal platform for various Fraunhofer institutes to present their Industry 4.0 / Al topics and showcase exhibits in the areas of industrial processes, human-machine interaction, autonomous systems, digital twins etc. For more details about the event, please click >> here Feb 4th 2020: Large Industry 4.0 Summit - Organised by Maratha Chamber of Commerce, Industries & Agriculture (MCCIA), Pune Feb 17th - 18h 2020: Visit of Mr. Michael Kasper, Head of Cyber-Security, Fraunhofer Singapore to Fraunhofer Office India

During Mr. Kasper's visit, Fraunhofer Office India is coordinating meetings for him with major IT companies.

Dr. Markus Wolperdinger will visit Pune, Mumbai and New Delhi for business meetings with high-level potential clients.

market. The event will bring together stakeholders from the sector and will help set a growth agenda for the future.

authorities, international and domestic technology, solutions and service providers from the wind power industry.

He will also participate as a speaker in International Business Summit - Organised by Maratha Chamber of Commerce, Industries

RenewX intends to accelerate the growth of the South Indian Renewable Energy Industry and contribute to the country's sustainable economic development. RenewX will provide an excellent platform for organisations to capitalise and penetrate this lucrative

WINDENERGY India 2020 is organised by Indian Wind Turbine Manufacturers Association (IWTMA) and PDA Trade Fairs Pvt Ltd, the 3-day trade fair and conference will provide a vibrant platform to meet, interact and engage with policymakers, regulatory

Fraunhofer

6th Fraunhofer Innovation and Technology Platform (FIT)

Mar 2nd - 8th 2020: Visit of Dr. Markus Wolperdinger, Director, Fraunhofer IGB to India

Mar 18th 2020: Meeting of the German Organizations in Bangalore, hosted by Invest in Bavaria

& Agriculture (MCCIA) on Mar 2nd 2020 in Pune.

Apr 24th - 25th 20202: RenewX 2020, Hyderabad

Apr 25th - 28th 2020: Hannover Messe 2020

For more details about the event, please click >> here

Activities of Fraunhofer Office India in Hannover Messe 2020 tbc.*

Aug 2020: 6th Fraunhofer Innovation and Technology Platform (FIT), Bangalore

Apr 28th - 30th 2020: WINDENERGY India 2020, New Delhi

For more details about the event, please click >> here

ARTIFICAL INTELLIGENCE - EVOLUTION OF AN INTELLIGENT AGE

logical solutions available to overcome them.

Fraunhofer mentions in the news

Manufacturing

STFI, IGCC Successfully Conducts Training on Solar Industrial Heat

Auto industry drives into 2020 with hope after a forgettable 2019

PV soiling in dry climates: causes, impacts and solutions

HEALTHCARE of relevance in the field of research and innovation, **EDUCATION** engage and in constructive dialogue with Indian Industry, Government and Research Institutes to find solutions for SMART CITIES & INFRASTRUCTURE

The state of solar sustainability Challenges of Making Solar Energy Economical Automotive

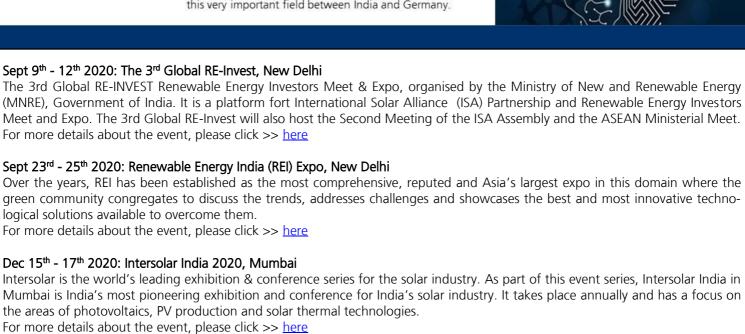
Share of renewable energy rises to 9% India set to cross 100GW renewable energy capacity mark in 2020

Renewable Energy

Manufacturing sector stares at another challenging year

Manufacturing sector stares at another challenging year Animal spirits in India show the slowdown may be bottoming out India cannot achieve \$5 trillion economy with slowing automotive industry

Cold wave hits Indian economy in 2019: A snapshot in 5 charts



AUGUST 2020 | BANGALORE



7. Mar 19th - 20th 2019: Visit of Dr. Moritz Haemmerle, Fraunhofer IAO to India as a speaker in DWIH's Annual Symposium 2019 focusing on "Future of Work Lab" in the session on "Artificial Intelligence and New Working Environment". 8. Apr 3rd 2019: Visit of the delegation of Dept. of Heavy Industry (DHI), Govt. of India and delegation of Confederation of Indian Industry (CII) to Fraunhofer stand in Hannover Messe 2019 for discussions on joint activities with Fraunhofer in areas of transfer



16. June 7th- 8th 2019: Visit of a high-level Indian delegation led by Mrs. Anna Roy, Sr. Adviser, NITI Aayog, Govt. of India to Indian Institute of Science (IISc) Bangalore. She also participated in the panel discussion on "Policy Challenges/Opportunities in







try, diplomats, Members from the Opposition parties and other thought leaders address this high-powered event. Ms. Anandi lyer, Director, Fraunhofer office India and Mr. Rohit Rohilla, Manager-Production Tech represented Fraunhofer at this event and participated in annual voting process as a member for selection of National Executive Committee Members of FICCI for the year 2020 - 2021 **Upcoming: Outlook 2020** Jan 13th 2020: Visit of Dr. Joerg Kuhnert, Fraunhofer ITWM to Fraunhofer Office India During Dr. Kuhnert's visit, Fraunhofer Office India is organizing a workshop on Numerical Simulation with Indian Industry in Ban-

challenges in these areas. The 6th FIT Platform will focus SMART MOBILITY & TRANSPORTATION on Artificial Intelligence across Healthcare, Agriculture, Education, Smart Cities & Infrastructure and Smart Mobility & Transportation, and catalyse collaboration in this very important field between India and Germany.

Indian automotive industry expects Auto Expo to win back customers

Indian research quality lags quantity Michelin India signs MoU with ARAI Flashback 2019: Key Ai Hubs & Centres Of Excellence Launched In India IIT Madras to collaborate with US-based research company for medical device development Economy Budget 2020: FM consults stakeholders of start-ups, digital economy Top 13 Economic Developments: How Indian Economy fared in 2019? How India's economy came back down to earth India may surpass Germany to become fourth-largest economy in 2026 India facing 'Great Slowdown', economy headed to ICU India in midst of significant economic slowdown, says IMF Visit <u>www.fraunhofer.in</u> dustry Specific News Updates of India.

Growth in India's renewable energy sector has slumped to a five-year low Renewable energy sector: The way forward Govt forms team to certify facilities of solar power equipment makers **Smart Cities** What is a 'smart city' and what does it mean for urban India? Sweden to help India in building a climate-neutral smart city Qualcomm showcases how its Smart Cities Accelerator Program & technologies powering next-gen innovations 2020: The year of living smart Research & Development India Smart Cities Fellowship Team Plan study Kohima traffic

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