



**GNSS.asia**

**Round Table Meeting**

**on**

**OPPORTUNITIES FOR  
INDIA – EU  
GNSS INDUSTRIAL COLLABORATION**

17<sup>th</sup> March 2015 | The Park, Kolkata, India

19<sup>th</sup> March 2015 | KIIT, Bhubaneswar, India

**GNSS.asia India**



## INTRODUCTION

GNSS.asia India team organized two round table meetings in India – EU Industry Collaboration in GNSS downstream applications. The events were conducted on 17<sup>th</sup> March 2015 at The Park, Kolkata and on 19<sup>th</sup> March at Kalinga Institute of Industrial Technology (KIIT), Bhubaneswar.

The events were aimed at raising awareness on the GNSS market in India as well as the services offered by GNSS.asia project platform in establishing partnerships between EU and India. The event focused on GNSS applications in surveying & mining, two crucial sectors in the eastern part of India.

The events were able to:

1. Bring together some of the industrial and institutional players to mutually discuss insights on the current opportunities for GNSS downstream co-operation
2. Share up-to-date GNSS market information in India
3. Raise awareness on the services of the GNSS.asia project and the success stories so far
4. Offer the opportunity for collaborative ventures



The Kolkata event was attended by 23 participants from industry, governmental agencies and academia. The agenda included presentations by the GNSS.asia team and discussion on the project, GNSS applications and EGNOS/Galileo/GAGAN systems. The participants for the Bhubaneswar event included 8 professors and lecturers from KIIT University and 7 representatives from the industry.

The events offered the opportunity for gaining better insights on GNSS industry and networking between industry representatives.



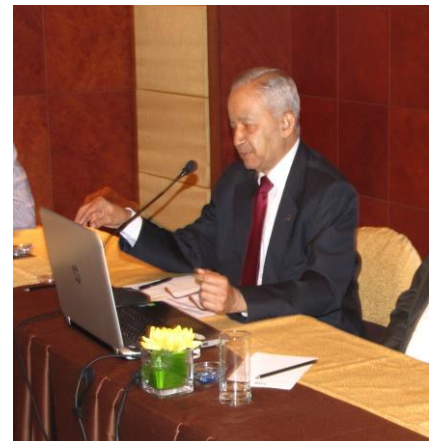
## PROGRAMME

The event commenced with a talk on European Business Group India, its activities and the association with EU and European companies, by Mr Anand Chakravarthy, Project Manager – GNSS.asia India.

Mr Varadarajan Krish, the project team leader, presented the details of GNSS.asia project. He spoke to the participants about the objectives of the project, the opportunities offered and the results from the first phase of the project. He further elaborated the potential that rests within the GNSS industry in India and how the platform can be a stepping stone to achieve better results.



This was followed by a presentation on GNSS technology and applications and an overview on Indian GNSS industry, by Dr Suresh Kibe, Technical Expert and Project Consultant. The talk gave insights on EGNOS, Galileo and GAGAN and the various applications of the systems in surveying, mining, navigation and surveillance.



The concluding presentation by Mr V S Velan, CEO/MD of Elena Geo Systems, narrated his experience with GNSS.asia platform and the opportunities for Indian industry – collaborating with EU.

The presentations were followed by an interactive Q&A session on GNSS industry, technology and opportunities, moderated by Mr Varadarajan Krish. The session brought forth the following topics of discussion:

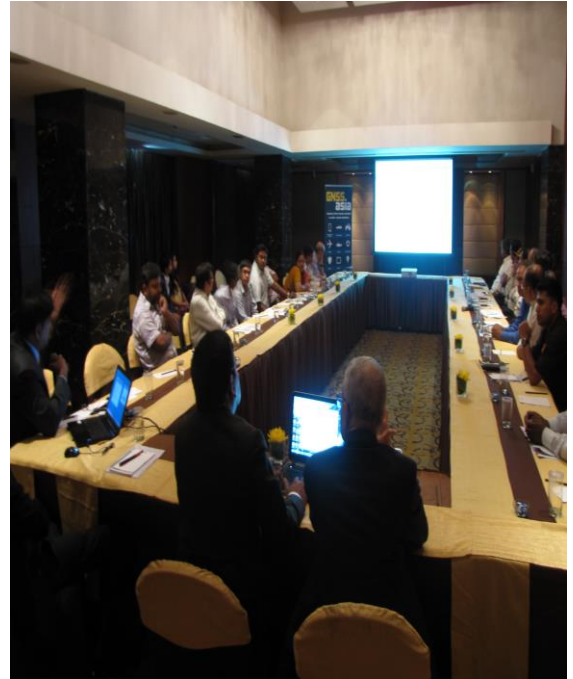
## DISCUSSIONS @ KOLKATA EVENT

- Mr Anindya Bose, Professor, Burdwan University suggested that industry and academia needs to work in tandem for more collaborative research on GNSS applications. He opined that more research publications are required in the field to attract industry attention to R&D developments. The industry can complement/supplement the research activities, pilot projects, etc. and thus build a cross-institutional framework for developing the GNSS industry. The discussion also pointed at the question of affordability when attempting for EU projects. The reach to ESA is often hurdled by the fee factor. Mr



Bose also stressed on the need for awareness and application of GNSS technology in disaster management – which is yet an unexplored field in India.

- Ms Sarbani Ray, Professor in Calcutta University posed questions on the ionosphere effects that affect the accuracy of the signals and the positioning. She also raised questions on how academic research activities and GNSS industry can work together with GNSS.asia platform.
- Mr Pratyush Talukdar of Stesalit Ltd. initiated discussion on accuracy of GAGAN & EGNOS systems. The dialogue explored if the systems can provide corrections of the co-ordinates or the corrected co-ordinates itself. He shared his experience of convincing governmental agencies on the accuracy of the GNSS devices Stesalit develops.
- Mr Singaraju from Geological Survey of India put forth the demand of free data and its easy availability, to overcome the slow pace of accessing the survey data. He also suggested use of GNSS in profile-type soil mapping.
- Mr Amit Ghosh, Principal Advisor of Supreme & Co. appreciated the initiative of GNSS team to extend the reach of the project to the east of India and such initiatives help connect the east & north-east of India globally. The demand for GNSS applications is on the rise in surveying and mining applications and quoted the instance of surveying land for dams and power projects in Arunachal Pradesh.
- The Kolkata Port Trust (KoPT) was represented by 8 officials. Mr Rajaram, River Pilot at KoPT posed questions on comparison between GAGAN & other systems. His talk revealed the lack of availability of GAGAN-enabled receivers in the market. He also pointed out the flaw in accuracy of positioning data and cited examples he came across during his service in KoPT.



The other points of discussion during the session included:

- Complexity of technology



- Enhancement of accuracy
- High fluctuation levels in positioning signals
- Difficulty in procuring all-compatible receivers
- Low and slow-paced awareness of GNSS

## DISCUSSIONS @ BHUBANESWAR EVENT

- Representatives of Nafri Geospatial Pvt. Ltd. raised queries on association of GNSS.asia and industry, and its particular benefits.
- Discussion spanned career opportunities in GNSS industry and designing a course to cater to such career prospects.
- The participants also showed keen interest in understanding the policy changes required for market penetration in GNSS industry.
- Application of GNSS in soil mapping, security and surveillance were discussed in detail for the benefit of the participants.
- Many a question was asked about the technology of GNSS – with specific reference to GAGAN and EGNOS.
- The researchers also expressed curiosity to know more about the applications of GNSS in precision farming.



## KEY FINDINGS

Both the events clearly figured the need for inclusion of eastern and north-eastern part of India in the span of GNSS.asia project.

- The scope for GNSS application market in the east demands a catalyst to accelerate the process.
- The areas of mining/surveying require awareness initiatives and larger involvement of industry to promote GNSS applications.
- Primary data from the discussion is an indicator for the interest within government agencies to promote latest GNSS technology in their applications.
- River navigation and surveying needs easy and fast access to data; disaster management is a theme to be focused in greater depth in GNSS.asia2.
- The concerns within the industry pointed focally to aspects regarding accuracy of data.
- The demand for international tie-ups and initiatives of pilot projects as well as its funding are on the rise in the market.



## SUGGESTIONS

- The eastern region of India is an important GNSS market which the EU industry should actively engage with to tap the progressive potential.
- The increased participation of EC/GSA and EU industry representatives in GNSS.asia Seminar in July 2015 will boost attracting more stakeholders in the region.
- The number of start-ups, focusing on GNSS applications, evidently proves the growth of GNSS market in India.
- Encouragement for R&D activities in GNSS technology and applications is possible with collaboration of universities between India and EU.
- Less number of qualified personnel in GNSS industry invokes the need for initiatives/courses to educate man-power through universities.

## CONCLUSION

The event equipped the project team to understand the GNSS industry/market in Eastern India and the relevance of EU-Asia Industry Seminar in the eastern part of India. Most participants expressed interest to take part in the upcoming seminar in July 2015.



=====