

Editorial

If things go as planned, on 28 December 2005 the first satellite of the European Satellite Navigation System – Galileo™ will be launched (note: you have to be quite famous when they use your first name for this). The satellite is named GIOVE-A (–Giovè™ being Italian for Jupiter). This is another recognition of the merits of the Italian scientist Galileo Galilei who in 1610 discovered the first four satellites of Giove (Jupiter). The second satellite GIOVE-B is planned to be launched in the beginning of 2006. GIOVE also stands for Galileo In Orbit Validation Element. The first four operational satellites will be launched in 2008, while the full Galileo System constellation (30 satellites) will be in orbit in 2010. For those readers who have not been following the Galileo discussions and progress, in this issue of Hydro international we include an overview of the services to be provided by the Galileo GNSS.

Galileo realised some 400 years ago that the formation of the satellites of Jupiter, the eclipses of which are frequent and visible, provided a clock whose face could be seen from every point on Earth. Tables describing the motion of these satellites were used to determine longitude at sea and on land. This was a big step forward in global surveying.

The new competition between the various GNSS systems should lead to improved accuracy and reliability. However, in addition to more accurate positioning and navigation, what does the future have in store for us as hydrographic surveyors regarding the possibilities of the (combined) services of GNSSs (and satellite-based augmentation systems)? I can only guess the full impact. For instance, who would have forecast at the introduction of the first PC its present widespread use and impact on society in such a short time. Likewise, in 1980 who would have predicted what the role would be of GPS in our daily lives? Will GNSS mark another significant step – comparable to Galileo™s longitude tables – on the route started by GPS? We encourage authors among you to write and tell us their views on what to expect by 2020. You can also contribute to a great Galileo challenge: global market development. A word of reassurance: unlike Galileo, you will not be sentenced to prison for your revolutionary ideas. With regard to the new possibilities that Galileo and the combination of GNSS services will give for high-precision hydrography, in this issue there are two articles on present-day technology on precise measurements both above (3D Laser Scanning used Offshore) as well as below the water surface (Underwater Metrology). We plan to pay more attention to GNSS in a future issue.

While attending the Final COMPRIS Conference and meeting of the North American–European Inland ENC Harmonisation Group (more about this in a future article), I learned that Austria – who leads the way in Europe in distributing river ENCs for free – now has a project to equip ships travelling the Danube with certified Automatic Identification Systems (AIS) for free (see www.doris.bmvit.gv.at). AIS – a tracking and tracing system – is part of the River Information Services (RIS) being developed to enhance navigation safety and efficiency of transport, for which up-to-date surveys and charting of waterways are a basic requirement. I wonder which other nations or organisations may eventually distribute ENCs – or even ECDIS systems – to shipping companies in order to enhance safety of navigation and the environment?