



CLGE's contribution to the public consultation about the applications of EU satellite navigation programmes (Galileo and EGNOS)

The consultation about the Action Programme on GNSS is welcomed by CLGE.

We thank the Commission for the very transparent approach allowing associations as ours to give their opinion. We sincerely hope that our constructive comments will help to obtain a good new action plan geared towards an optimal use of Galileo and EGNOS in Europe and abroad.

We also offer our platform, CLGE, as a major stakeholder in the high and very high precision sector.

This was already recognized by the European GNSS Agency GSA. Although our sector was not on the priority list, we've experienced a continuous support from this agency. The work the Agency is doing is very important for our sector and we would welcome an even increased cooperation with GSA as well as with all the other important stakeholders of the European Union.

As a general remark we would like to underline that it is important to act in favour and not against. The whole strategy for an optimal use of the European GNSS facilities may not hamper the use of other existing and coming systems. Yes, we may impose the use of Galileo for some essential activities, including cadastral surveying for ownership protection, but No, we may not hinder surveyors or other professionals relying on GNSS to use other systems additionally.

We also would like to underline that it is very useful to coordinate the space segment of GNSS, as well as the ground facilities required to manage these space-borne systems. We as CLGE would like to stress the lack of EU cooperation and coordination in the ground based augmentation segment.

Of course, there are some interesting initiatives, such as EUREF, at the academic level, or EUPOS, in some parts of Europe on the practical level. However, there is still much to do, and this would afford political and structural engagement of the European Commission (or the Council of Europe, to go beyond the EU). CLGE is ready to play an active role in this field (as one can see in the Umeå statement published on our website http://www.clge.eu/documents/events/93/11_06_23_Umea_statement.pdf).

We feel that the GSA or a similar Agency could and should play a major role in that field.

Question 1: Have you heard of the GNSS Applications Action Plan?

Structurally, CLGE has not been aware of this Applications Action Plan, in the sense that it was not really a topic on the agenda of our meetings. However, we've seen, and even took part in different events around the Applications Plan and some of our members are familiar with it.



Question 2: *If yes, do you think that the GNSS Applications Action Plan has been an effective mean to stimulate the uptake of GNSS applications by the market?*

It can have stimulated the use and our experts think that it is probably the case, but we are not yet in a waterfall situation. Additional efforts are required. It would be interesting to make an academic study about the actual impact of the plan.

Question 3: *Are any aspects important for your field of activity missing in the GNSS Applications Action Plan 2010-2013? If so, which and why?*

When you look at the priorities of the GNSS Applications Action Plan, you see the high precision farming. This is a typical problem for geodesists when launching new techniques, they tend to forget to sell themselves and do not appear on the radar. The high precision sector or very high precision sector of mapping, surveying and geodesy should not be neglected. It is mentioned in the Action Plan but not as a priority, although the basis of our economy relies on sound GeoInformation.

The very high precision sector is used in many economically vital fields. Although direct benefit is difficult to measure it is clear that the use of these techniques is crucial for the survival of our economic and social system (monitoring of dams or bridges, survey and control of pipes and plants, ownership protection i.e. cadastral surveying for property protection and mortgaging, ...).

Question 4: *Do you think the European Commission should launch such an action plan for 2014-2018? Why/Why not?*

Yes, we definitely think a new plan should be launched. The very high precision sector should be integrated more comprehensively and we as surveyors should be recognized as primary stakeholders.

However, it is also important to aim at the non-technical sector: the decision makers, the law makers, etc., to integrate pieces of GNSS technology in very high precision regulations at the national and European level.

Even our members who are less inclined in launching such a new plan, recognize some potential benefits. The renewed plan could help to clarify certain open questions and make some estimates regarding the future of GNSS, the orientation of common future trends.

A frame for the use of GNSS in Europe should be created via this plan.

Question 5: *If yes, do you think the European Commission should focus the action plan on the uptake of the European GNSS systems or should it concern all GNSS systems?*

The EU effort to build its own GNSS (independent of other providers) is legitimate and it is a significant and very clear strategic goal.

This takes not away that all systems should be covered by the Action Plan since the multiple use is already reality today, even before the availability of Galileo, with GPS and



GLONASS. However the main effort and support must be devoted to the European system (strategic independent system). Every action should be oriented towards the whole GNSS-world AND in the same time, more specifically, to the EGNOS – Galileo tandem.

While a firm legislative support for the utilization of the future Galileo system is quite understandable and even desirable it is also important that it is not accompanied by the administrative restrictions hampering the use of other existing or future foreign GNSS.

Question 6: *What are the consequences and risks for your field of activity if the GPS or any other GNSS signal were no longer available?*

As GNSS has become an important mean of geodetic surveys (about 75% of the field work implies the use of GNSS equipment), an unavailability of signals would complicate the daily work of surveyors causing delays to projects. The private sector would of course suffer from this situation, but the public sector too, especially the public surveying cadastral and mapping administrations in Europe:

During a recent CLGE-seminar, organized in Budapest in March 2013, the benefit of GNSS-services was discussed and estimated. Thanks to GNSS-services the surveying and mapping processes are around 30% faster by using 30% less staff. An estimate for the European public surveying and mapping market leads to a benefit of around 50.000.000 EUR each year (<http://www.clge.eu/events/details/134> and especially http://www.clge.eu/documents/events/134/2_Jens_Riecken.pdf).

Therefore it is essential to have the GNSS-services available. Galileo will guarantee this! Moreover in combination with the existing services (GPS and GLONASS) it will lead to better accuracy and even faster solutions, so it will produce additional benefit.

This shows that the systems have to complement each other. In that case the temporary loss of signal is not too important.

Should the European Commission take action to mitigate those consequences and risks?

Yes, definitely! Substantial efforts should be done to guarantee a very high uptime of the EU system. Regulations imposing the use of Galileo should take possible interruptions into account.

Question 7: *The European Commission is considering the continuation of several actions from the current GNSS Applications Action plan. Do you agree that the following actions should be continued? Should any other action be continued? If so, why?*

Action 2: Provide SBAS Middle-East, Eastern & Northern Europe and Africa;

Action 6: Obtain acceptance of Galileo SAR capability by Cospas-Sarsat;

Action 7: Launch awareness campaign targeting road transport;

Action 12: Investigate expediency of selected Directives;



Action 13: Amend Regulation on digital tachographs;

Action 20: Establish virtual information centre.

We agree with the continuation of these actions. However we also strongly advise an increased activity in Action 17 (GeoInformation) and in Action 16 (R&D for price reduction).

Question 8: *The European Commission is considering the inclusion of the following types of actions in the GNSS application action plan 2014-2018:*

Information and awareness actions (e.g. see actions 1-6 in the current GNSS Applications Action Plan);

Certification, coordination and standardisation actions (e.g. see actions 7-11 in the current GNSS Applications Action Plan);

Regulatory actions (e.g. see actions 12-15 in the current GNSS Applications Action Plan);

Horizontal actions (e.g. see actions 16-24 in the current GNSS Applications Action Plan).

Should other types be added (financing, security, economics of scale,...)? Should one or more of the above types be deleted? If so, why?

We agree with the above mentioned selection but we would go for regulations in the field of the use of GNSS in our sector (geodetic and cadastral surveying), harmonise or even coordinate and unify the current National Ground Based Augmentation Systems and prepare the next generation.

We also would emphasise the certification aspect of the quality of geodetic surveys performed with GNSS. Awareness campaigns would also be necessary in this field.

Question 9: *Are any aspects important for your field of activity missing with regard to a future GNSS action plan? If so, which and why?*

No, but actions 17 (GeoInformation) and 16 (R&D) which are directly related to our core business, merit more emphasis. Agriculture and Fishery are important sectors, no doubt, but the property or real estate sector, including cadastral surveying deserves as much attention if not more. Our economies heavily rely on a sound real estate property protection. The mandatory use of Galileo and certification of the resulting quality should be part of future investigations.



Based on a first analysis, the European Commission has identified several possible options for future action:

Option 1: The European Commission does not take any further action to stimulate the market uptake of GNSS applications after the completion of the current GNSS Applications Action Plan.

Option 2: The European Commission sets up a GNSS Applications Action Plan 2014-2018 along the lines of the existing GNSS Applications action plan.

Option 3: The European Commission sets up a GNSS Applications Action Plan 2014-2018 along the lines of the existing GNSS Applications Action Plan and takes regulatory measures to ensure the uptake of Galileo in critical activities. The regulatory measures could potentially take one of the following forms:

Option 3.1: The European Union decides to mandate that all critical infrastructures⁹ which rely on satellite navigation systems are Galileo enabled. This way, the critical infrastructure can continue to function should a foreign GNSS fail.

Option 3.2: In addition to option 3.1, this option would include that the European Union decides to mandate the use of Galileo-enabled systems in some critical and regulated activities (e.g. transport of dangerous goods, fishing vessels).

Option 4: The European Union requires that any receiver that is marketed in the EU is Galileo-enabled. This way, all equipment using GNSS technology on the EU territory can make use of Galileo, in particular in case of failure of the other GNSS systems.

Question 10: Please rank the above options (and sub-options) according to your preference and motivate that ranking.

3.2; 3.1; 4; 2; 1

Please notice that for us, option 4 could be adopted in parallel with option 3.2. It would be useful since it would rapidly lead to affordable devices (see also Action 16 of the current Action Plan).

Question 11: Do you think other options should be considered? Which options? Why? Why not?

No.



Question 12: *What would be the economic impact of each of these options on your field of activity? What would be the additional costs for you? How high would such costs be? What benefits would they bring to you?*

The adoption of 3.2 would imply investments in the ground based augmentation systems (a lot of them are already upgraded or considering such upgrades). The European Commission should unify these Ground Based Augmentation Systems and coordinate actions amongst the members states. Germany is a very good example, the Länder are cooperating in SAPOS (Germany is dubbed Little Europe and is a real proof of concept).

Thus, the European Commission should develop or support the creation of a real European Ground Based Augmentation System (EGBAS) for Geodesy, Mapping, Environmental Management, Cadastral Surveying, ...

Currently the European Commission seems to be focussed on the dynamic applications while the static applications, in the geodetic field, need more attention.

We do not know the exact cost for these upgrades; mapping and cadastral agencies should be asked.

The individual surveyor will only experience one important investment, moving from classic surveying hardware to GNSS hardware (+/- €20.000, less if Action 16 and Priority 4 are applied and successful), the upgrade towards Galileo and other possible future systems will be a normal maintenance cost.

If all this is performed in conjunction with option 3.2, we expect better availability and reliability of the GNSS Service, and this would lead to increased quality of our services to clients and a broader circle of clients.

Question 13: *To what extent do you think that each of these options would secure the market uptake of Galileo?*

We think that the best market uptake will be obtained with option 3.2. (in combination with option 4).

To get the best success, it will be necessary to install a "Think small first!" – Strategy, as we know from the GD Enterprise. This strategy should of course not forget the high precision sector of geodetic surveying.

Question 14: *Do you miss any important aspects in these options? Which and why?*

No.

Brussels, 14 July 2013