



# I2G INTERGEO



## i2geo.net – a platform for sharing dynamic geometry resources all over Europe

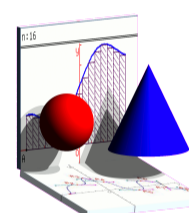
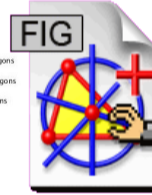
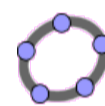
Jana Trgalova<sup>1</sup>, Ulrich Kortenkamp<sup>2</sup>, Ana Paula Jahn<sup>3</sup>, Paul Libbrecht<sup>4</sup>, Christian Mercat<sup>5</sup>, Tomas Recio<sup>6</sup>, Sophie Soury-Lavergne<sup>1</sup>

<sup>1</sup>INRP, Lyon, France - <sup>2</sup>CERMAT, Karlsruhe, Germany - <sup>3</sup>UNIFESP, São Paulo, Brasil - <sup>4</sup>DFKI, Saarbrücken, Germany - <sup>5</sup>University Lyon 1, France - <sup>6</sup>Universidad de Cantabria, Santander, Spain

**Abstract.** The Intergeo project (Kortenkamp et al. 2009) tackles main obstacles to DGS integration: (1) difficulties to find suitable resources due to the lack of metadata describing accurately their content, (2) the impossibility to exploit with a given DGS resources created with another one, (3) the lack of quality guarantees of available resources.

### Sharing

Find, browse, download, comment, modify, upload...  
An accurate resource content description is necessary for easy finding and sharing resources. The challenge in Intergeo consisted in defining **international metadata** allowing a cross-curricular resource search regardless of language and cultural differences. This was achieved by defining a **mathematical topics and competencies ontology** making it possible to find resources even if they are written in different languages. Sophisticated search tools, such as a search based on key words from different national curricula) have been developed.



### Interoperability

Resources at the same place, tagged with common **metadata** regarding subject, educational level, type of activity, licence and rights holder. One of the obstacles in the use of DG is the issue of user lock-in with respect to a particular software product. Mastering new software is time consuming and usually unrealistic for teachers. The project defines a **common interoperable file format** that allows describing any construction created with a DGS and that can be used to interchange content between DGSs. The standards are supervised by a non-profit association, Intergeo A.s.b.l.

### Quality assessment

Quality assessment of DG resources in the project is a community effort by the users themselves. It aims at promoting access to best quality resources, as well as at ensuring their **continuous improvement**. The main tool supporting DG resource quality assessment on the platform is a standardized **questionnaire** organized around nine dimensions of a resource related to its mathematical, didactical, pedagogical, technical and ergonomic aspects. **Quantitative evaluation** of a resource along these aspects in terms of a 4-level range of agreement can be complemented by **qualitative comments**, which are crucial for the resource improvement.

### For teachers

The project target are secondary math teachers in Europe. They find on the i2geo platform a unique “market place” where to “shop” for **resources** to liven up their courses with **interactive material of tested quality**. They are invited to be promoted from simple consumers to active reviewers of resources, leaving quality evaluations, class reports and usage comments. They can also write new versions of the resources according to their special needs such as language or featured target audience.

Empirical studies show that student worksheet and teacher file are crucial components of a resource helping teachers make the resource their own. Metadata are also significant for the teachers, who focus especially on the title, authors and description of the resource. A DG resource analysis goes through an explicit check of DG added-value in comparison with paper and pencil and a special attention is paid to the role of the drag mode. This is a crucial professional skill needed for an efficient DG resource analysis and use. Teachers' involvement in resource quality assessment thus participates in their continued professional development, improving their reflexive attitude in teaching.



[HTTP://WWW.I2GEO.NET](http://www.i2geo.net)

Co-financed by the European Community in the eContent+ framework (2007-2010)

Coordination: Pr. Ulrich Kortenkamp, Paul Libbrecht, Pädagogische Hochsch., Bismarckstr.10, Karlsruhe, Germany

