Association Report 2013 – 2014

April 2015

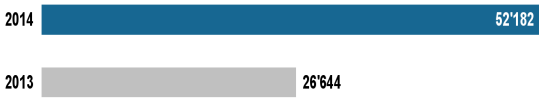
ecorisQ.

INTERNATIONAL ASSOCIATION FOR
NATURAL HAZARD RISK MANAGEMENT

Key information

Revenue

(CHF)

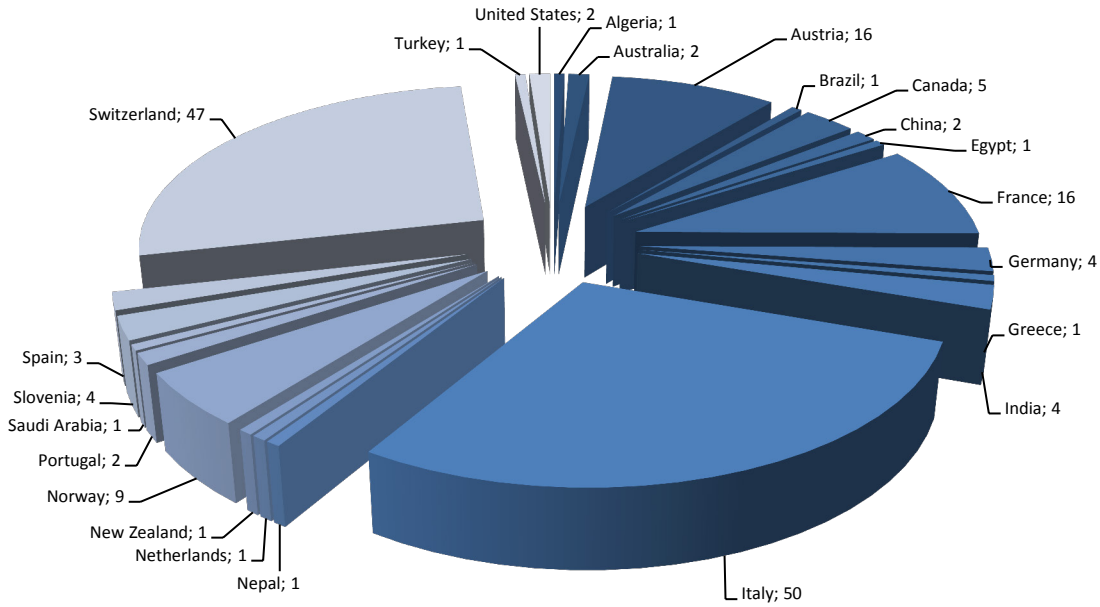


Nr. of members

(-)

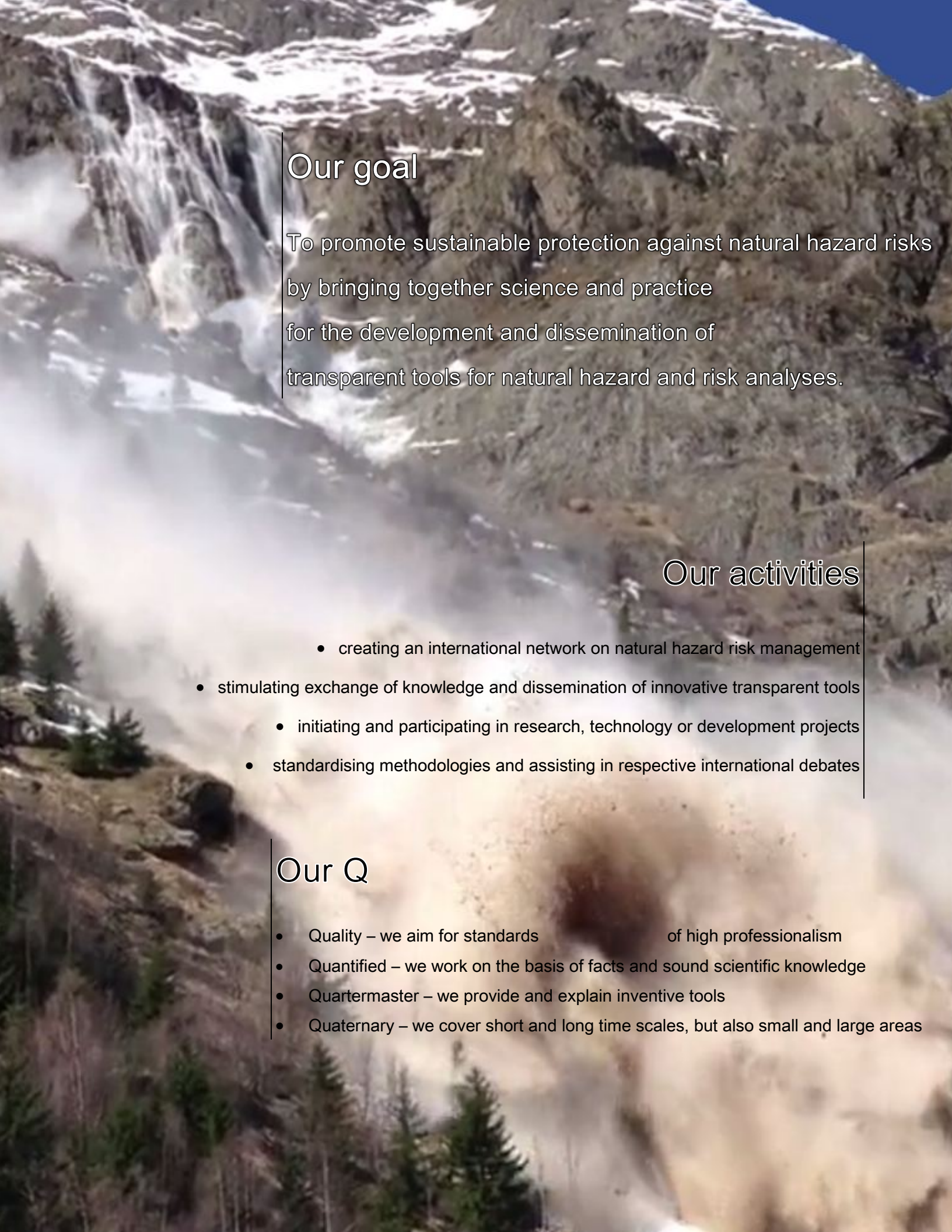
Countries of members

(2014)



Member types

	2014
Private sector	53%
Universities / schools	19%
Research institutes	10%
Administration	11%
Other (non-professionals, NGO, …)	7%



Our goal

To promote sustainable protection against natural hazard risks by bringing together science and practice for the development and dissemination of transparent tools for natural hazard and risk analyses.

Our activities

- creating an international network on natural hazard risk management
- stimulating exchange of knowledge and dissemination of innovative transparent tools
- initiating and participating in research, technology or development projects
- standardising methodologies and assisting in respective international debates

Our Q

- Quality – we aim for standards of high professionalism
- Quantified – we work on the basis of facts and sound scientific knowledge
- Quartermaster – we provide and explain inventive tools
- Quaternary – we cover short and long time scales, but also small and large areas

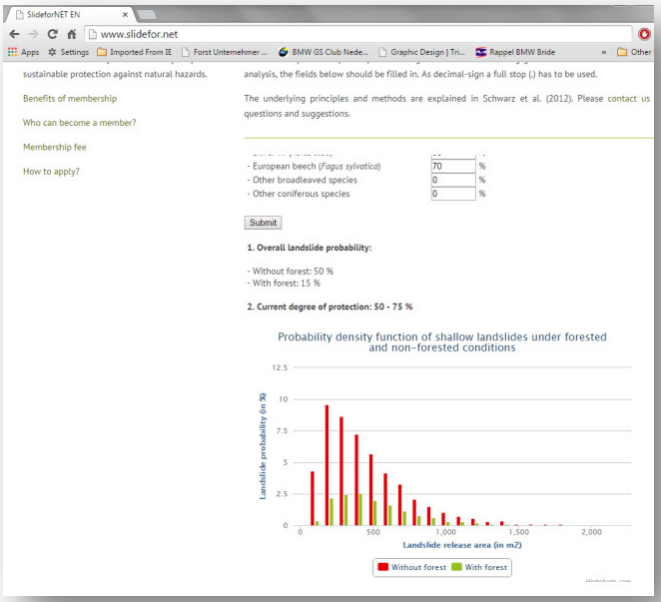
Activities 2013 – 2014

Training courses

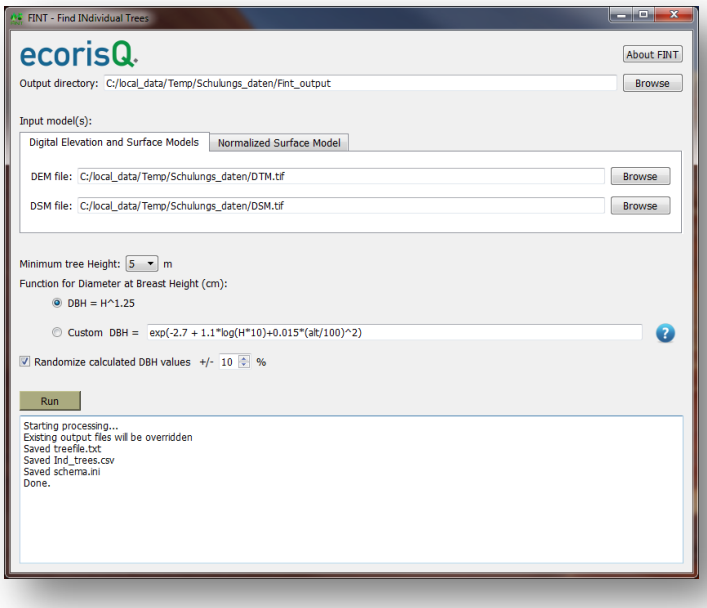
Five training courses on the use of Rockyfor3D for assessing rockfall hazards were given in 2013 and 2014. In total, 71 persons participated in these two-day courses (Silvaplana, CH, 2013; Bolzano, IT, 2013; Bolzano, 2014; Lausanne (Chexbres/Mont Pélérin), CH, 2014) or three-day courses (Aosta, IT, 2014). Also in the coming years, the aim is to organise at least two courses per year on tools or methodologies that are made available via ecorisQ.

Tool development

Since January 2014, a rapid assessment tool, which facilitates the quantification of the stabilising effect of a forest on slopes that are prone to shallow landslides, is online on our website. This tool is called SlideforNET and can be used for free (cf. www.slidefor.net). Scientific evidence that forests do have a stabilising effect on such has been increasing over the last 20 years. Reinforcement by tree roots seems to be one of the crucial factors and is therefore an important basis for the calculation in SlideforNET.

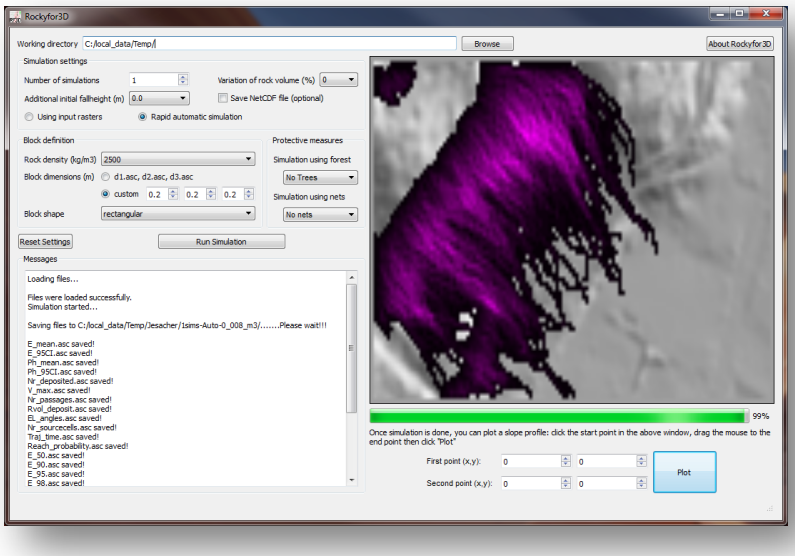


In the autumn of 2014, we finalised the main tool development project of the period 2013-2014, which was FINT (Find INdividual Trees), a tool for extracting



trees automatically from high resolution digital surface and digital terrain models. FINT calculates positions of dominant and co-dominant trees on the basis of high resolution surface models (e.g., from LiDAR data) of forests. Since most users have access to raster data used in standard Geographical Information Systems (GIS) instead of 3D point data, we developed a method that is based on the identification of local maxima on raster data. The principal aim of FINT is to obtain a realistic forest structure in the sense that the positions of the largest trees and the locations of the main gaps and couloirs in the forests are recorded and subsequently integrated in natural hazard process simulation models. FINT can be too imprecise for silvicultural analyses (e.g, estimation of stand density, basal area and standing volume), especially for broadleaved and mixed forests. An important variable determining the precision of the outcomes is the resolution of the input data. Therefore, a minimal resolution of 1 x 1 m is recommended.

Finally, the Graphical User Interface (GUI) of the 3D rockfall trajectory simulation software Rockyfor3D has been improved. The current version (Rockyfor3D v5.2.1) allows a “rapid automatic simulation”, which only requires a Digital Elevation Model as input. All parameters related to surface roughness and elasticity are calculated automatically,

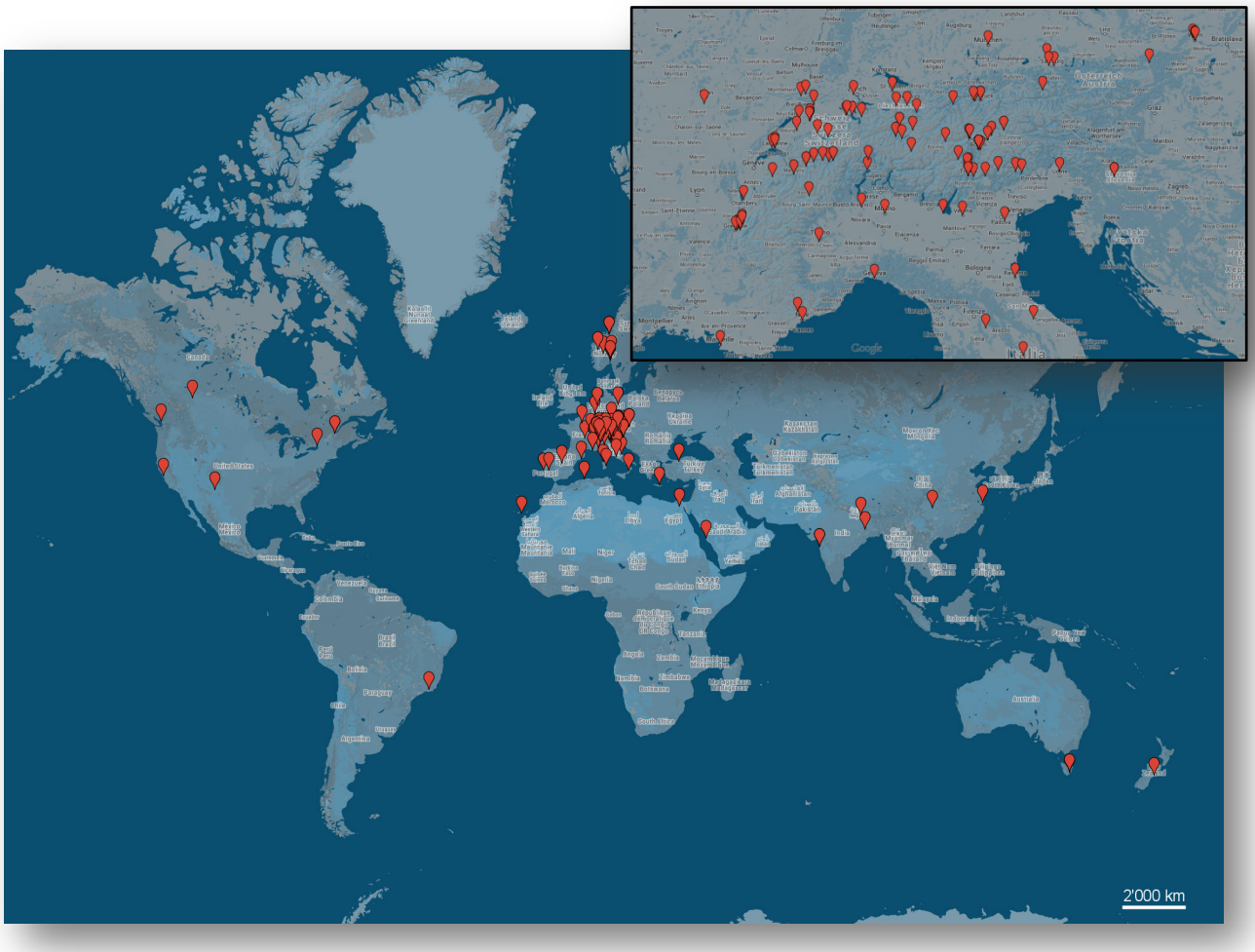


using pessimistic values. The new GUI also allows defining directly the form and the dimensions of the blocks to be simulated. These improvements have been implemented on demand of the participants of the training courses.

Communication and representation

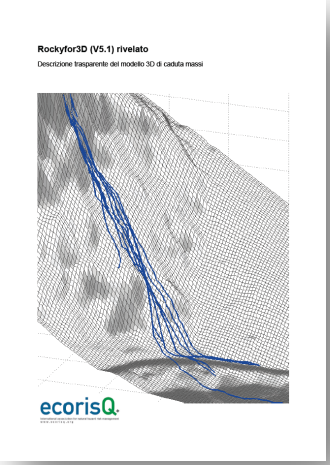
A large part of the invested time and resources were dedicated to communication and representation. For example, ecorisQ sponsored the International conference "Analysis and Management of Changing Risks for Natural Hazards", which took place on 18-19 November 2014 in Padua, Italy with a contribution of 1500 Euro.

The last 2 years ecorisQ further increased its international recognition. The current distribution of members is shown on the map below. A concentration of members in the Alps is clearly visible.



Publications

Since June 2014, the Rockyfor3D manual is available in English, French, German and Italian. The FINT manual is available in English only. A manual for the tool SlideforNET has to be written still – this is planned for autumn 2015.



One of our aims remains to continuously make available an up to date selection of papers that are interesting for its members via our website. This activity still needs to be developed in the sense that the type and information content of the papers to be published has to be defined in the coming period.

Budget (in CHF)	Result 2013	Result 2014	Planning 2015	Planning 2016
Association affairs: General Assembly	7'225	588	6'000	10'000
Association affairs: Travel & representation costs	4'518	6'140	8'000	8'000
Association affairs: Registration / memberships	240	216	400	1'000
Association affairs: Hardware/Software	3'128	0	0	0
Association affairs: Copy/printing costs	0	0	500	500
External mandate: Association administration	8'140	6'052	15'000	5'000
External mandate: PR & communication	0	730	0	5'000
External mandate: Training courses	899	16'118	15'000	15'000
External mandate: Translation manual	0	2'700	0	0
External mandate: R&D projects	0	13'287	3'000	15'000
External mandate: Website development	5'662	720	1'000	1'000
External mandate: Website hosting	113	420	500	500
Bank charges	126	247	250	250
Other	0	0	1'000	1'000
Total expenses	**30'051**	**47'218**	**50'650**	**62'250**
Membership contributions	19'223	32'899	35'000	40'000
Projects	0	0	0	0
Meeting registrations	6'118	0	6'000	10'000
Funding/subsidies/donations	15'331	0	0	10'000
Training courses	1'303	19'284	15'000	15'000
Sponsoring	0	0	0	0
Total income	**41'975**	**52'182**	**56'000**	**75'000**
Total expenses	30'050	47'218	50'650	62'250
Total income	41'975	52'182	56'000	75'000
Reserve preceding year	*0*	*11'924*	*16'889*	*22'239*
Net result	**CHF 11'924**	**CHF 16'889**	**CHF 22'239**	**CHF 34'989**

The coming years ...

For ecorisQ it is important that professionals, who are working daily in the field of natural hazard risk management, take active part in the association, by indicating their needs and problems in their daily work. On the basis of their feedback, new tools will be developed. The next one that will be developed by ecorisQ is a 3D model for predicting the disposition of shallow landslides (SOSlope). This tool should be available in the course of 2016. In a second development phase, we will develop a complementary tool that simulates the runout zone of such landslides and some additional basis kinematics (deposit height and potentially also flow pressure). In parallel, we will disseminate a simple tool for calculating runout zones of gravitational processes using the energy line principle, in collaboration with IRSTEA Grenoble. Together with the BFW, we are discussing the development of a redesign of ZEMOKOST – a tool for estimating flood events in mountain catchments using design storm values. The manual of SlideforNET will be finalised in 2015 and the tool FINT will be tested and further improved (including the manual) the coming 4 years.

Currently, ecorisQ has members in 23 different countries – with a strong core in the European Alps. In the coming 4 years, we believe that the association should enlarge its focus on other parts of the world were the tools and expertise available in the ecorisQ network could be of interest.

Luuk Dorren and Massimiliano Schwarz,
(President and Vice-President, ecorisQ)
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Title:
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