

Master thesis:

The aim of the thesis is the implementation of a utility tool to query and visualize of specific GIS data inside a report. The GIS data represent survey data collected during the inspection of galleries in hydro-powerplant infrastructures.

The report should contain several statistics about the damages in galleries. The main focus is set on implementing an extended diagram including:

- a geological stratification diagram
- a clearly represented diagram that highlights
 - the damage category
 - the degree of the damage
 - and the localization of the damage

The student will use real world data collected in different inspections.

Required skills:

- *Programming knowledge (Java)*
- *SQL knowledge (PostgreSQL/PostGIS)*

Useful skills:

- *Statistics (fundamentals)*
- *JasperReports (an open source reporting tool)*
- *JfreeChart (an open source framework for creating interactive charts)*

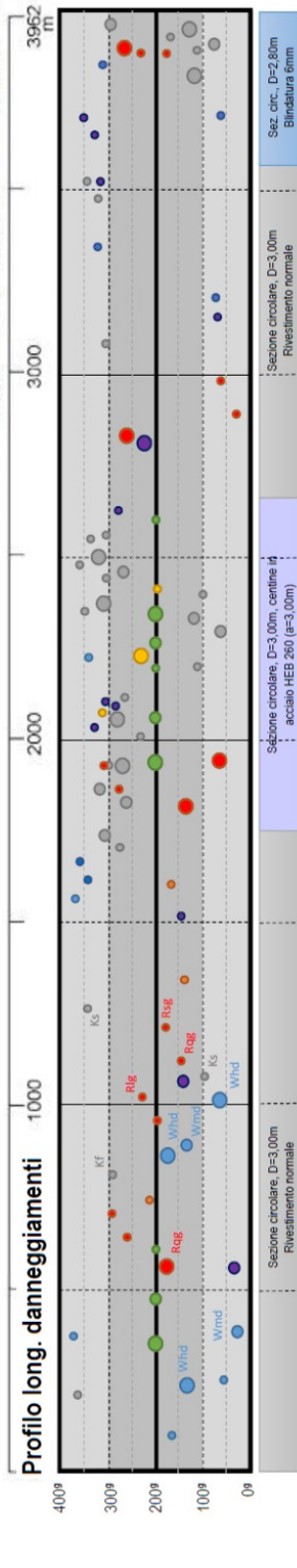
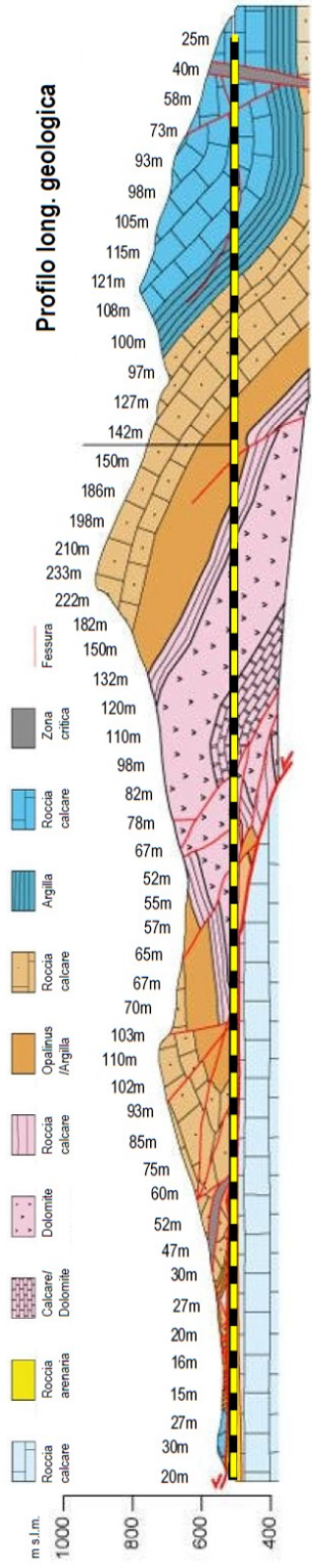
A screenshot of the desired output is illustrated in the figure on the next page.

About the Company:

Hydro Safety vGmbH

www.hydro-safety.com

Possible working place: St. Pauls (Eppan an der Weinstrasse)

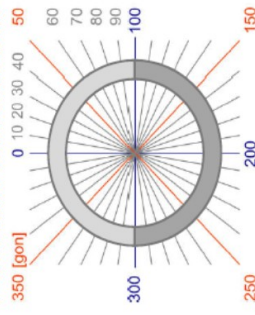


Profilo long. strutture e geometria

Valutazione danneggiamenti



Particolare localizzazione



Tipologia danno	Categoria danno I	Den.	Categoria danno II	Den.	Tipologia danno	Categoria danno I	Den.
Fenomeno calcificazione	Stalattiti	Ks			Distacco	Va	
	Concrezioni calcaree	Kf			Ringonfiamento	Vb	
Venuta d'acqua	Levee entrata d'acqua	Wb	Sotto pressione		Overlap of plaster fibres	Vc	
	Media entrata d'acqua	Wm	Non sotto pressione		Superficiale	Vd	
	Elevata entrata d'acqua	Wh			Puntuale (vespaio)	Ve	
Valvola Clapet difettosa	Valvola Clapet malfunzionante	Db			Erosione	H	
	Valvola Clapet non funzionante	Dn			Cavità	L	
Danneggiamento giunti di costruzione	Apertura giunto	Fo			Buco	RO	
	Erosione presso giunto	Fe			Getto poroso	GV	
	Degradato giunto	Fv			Segni di degrado generale	Zs	
	Langriss	Rl	Aperta	R_o	Mattoni in vista	Zg	
	Querriss	Rq	Chiusa	R_g	Mattoni scagliati in vista	Zb	
	Ringförmiger Riss	Rr			Mattoni lesionati in vista	Zl	
	Diagonalriss	Rd			Cuciture di mattoni slavati	M	
	Spinnmetz Riss	Rs			Materiali dep. in platea	P	
	Sonstiger Riss	Ro			Fenomeno funghi	FL	
Fessurazione					Mancanza di larghezza elastometrica		

Descrizione danneggiamenti