BIM & GIS
Was können wir von einander lernen?

achtgradost

Jürg Lüthy & Carla Thoma

Geoinformationstag HSR / UNIGIS-Tag, 13.11.2019

BIM & GIS – Hauptunterschied

GIS

Ohne Taten keine Daten!

Quelle: https://peanuts.fandom.com

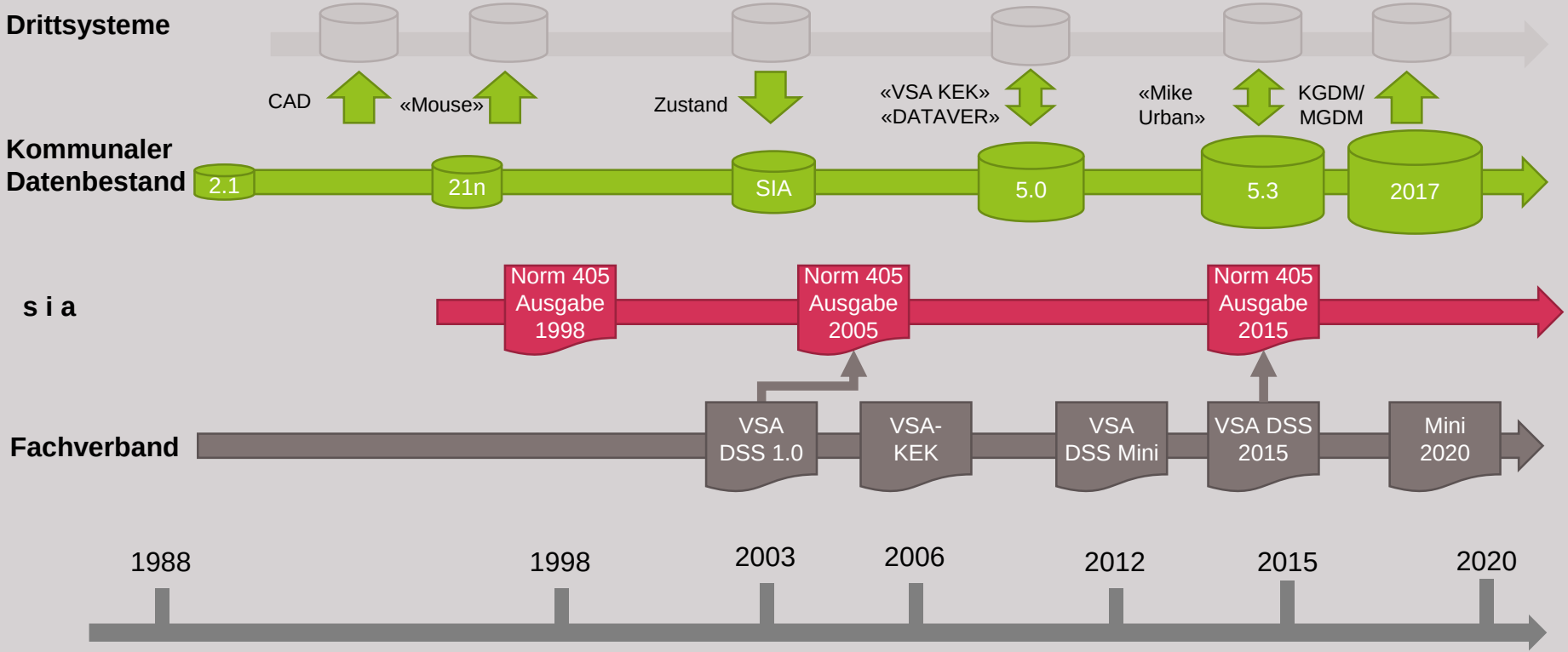
BIM Digitales Planen, Bauen & Betreiben

Ohne Daten keine Taten!

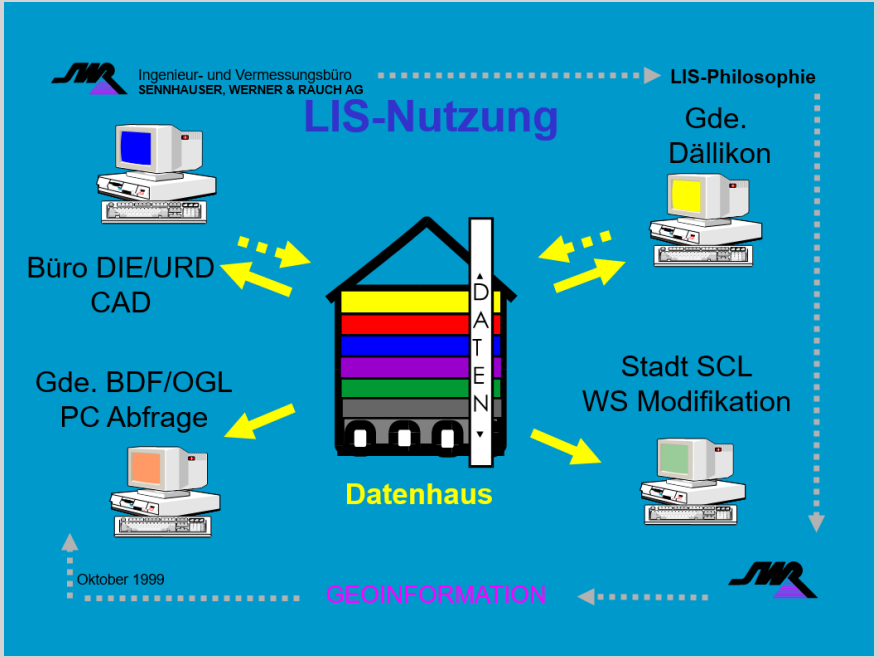
Quelle: EMPA / DFAB-House

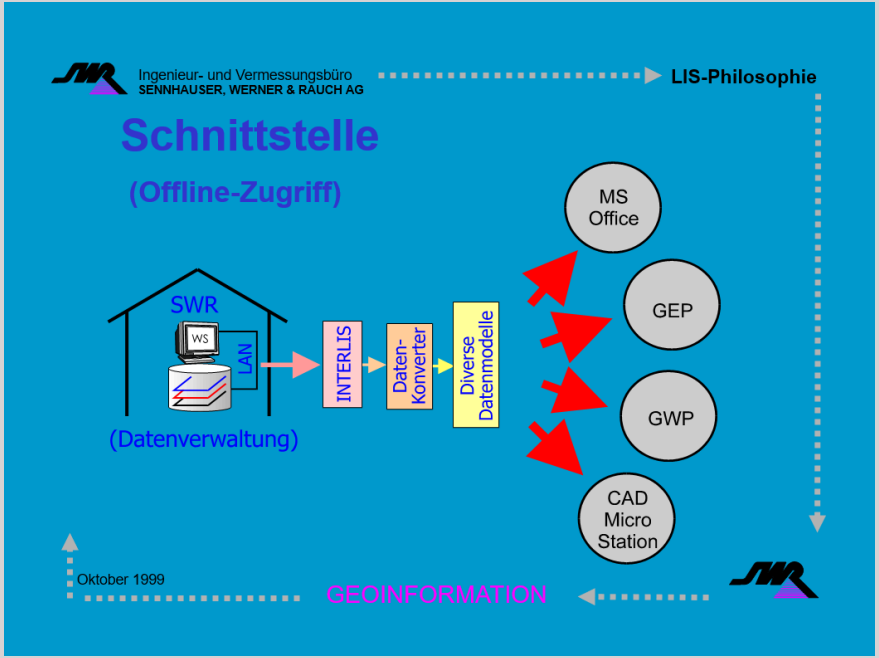
GIS – 30+ Jahre Digitalisierung
Beispiel Entwicklung Abwasser

achtgrad ost



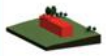
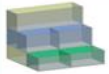
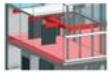
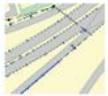
GIS – Gestern und heute
Nachhaltige Konzepte!





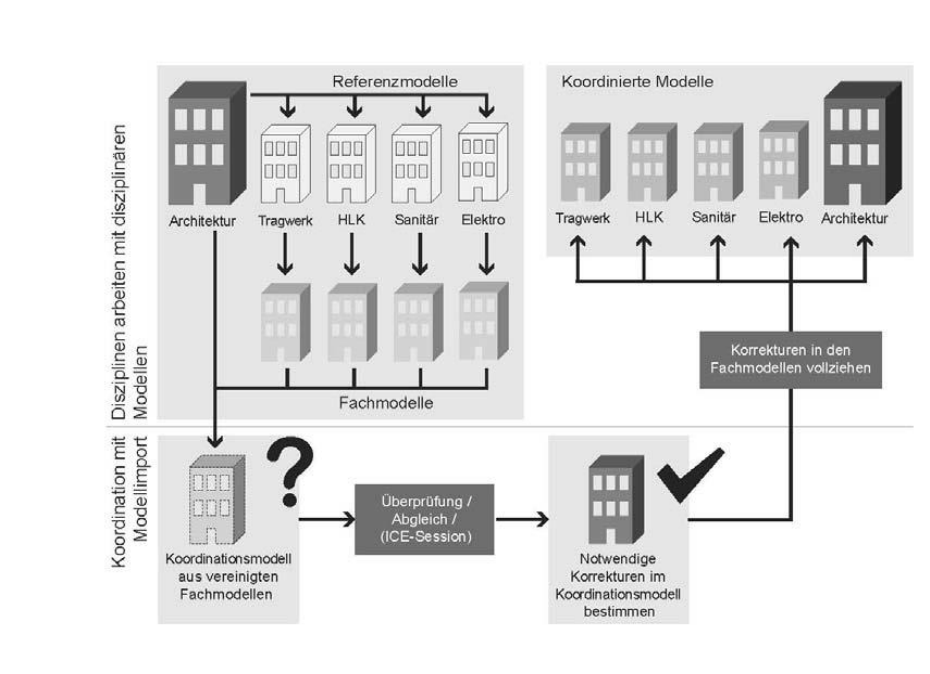
Hinweis: SWR (Sennhauser, Werner & Rauch AG) ist der Rechtsvorgänger der Acht Grad Ost AG

BIM – wesentliche Merkmale(1)
Lebenszyklus und Informationstiefe

Stage number	1	2	3	4	5	6	7
Model name	Brief	Concept	Definition	Design	Build and commission	Handover and closeout	Operation
Systems to be covered	N/A	All	All	All	All	All	All
Graphical illustration (building project)							
Graphical illustration (infrastructure project)							
What the model can be relied upon for	Model information communicating the brief, performance requirements, performance benchmarks and site constraints	Models which communicate the initial response to the brief, aesthetic intent and outline performance requirements. The model can be used for early design development, analysis and co-ordination. Model content is not fixed and may be subject to further design development. The model can be used for co-ordination, sequencing and estimating purposes	A dimensionally correct and co-ordinated model which communicates the response to the brief, aesthetic intent and some performance information that can be used for analysis, design development and early contractor engagement. The model can be used for co-ordination, sequencing and estimating purposes including the agreement of a first stage target price	A dimensionally correct and co-ordinated model that can be used to verify compliance with regulatory requirements. The model can be used as the start point for the incorporation of specialist contractor design models and can include information that can be used for fabrication, co-ordination, sequencing and estimating purposes, including the agreement of a target price/ guaranteed maximum price	An accurate model of the asset before and during construction incorporating co-ordinated specialist sub-contract design models and associated model attributes. The model can be used for sequencing of installation and capture of as-installed information	An accurate record of the asset as a constructed at handover, including all information required for operation and maintenance	An updated record of the asset at a fixed point in time incorporating any major changes made since handover, including performance and condition data and all information required for operation and maintenance The full content will be available in the yet to be published PAS 1192-3

PAS 1192-2. © 2013 The British Standards Institution (heute EN 19650).

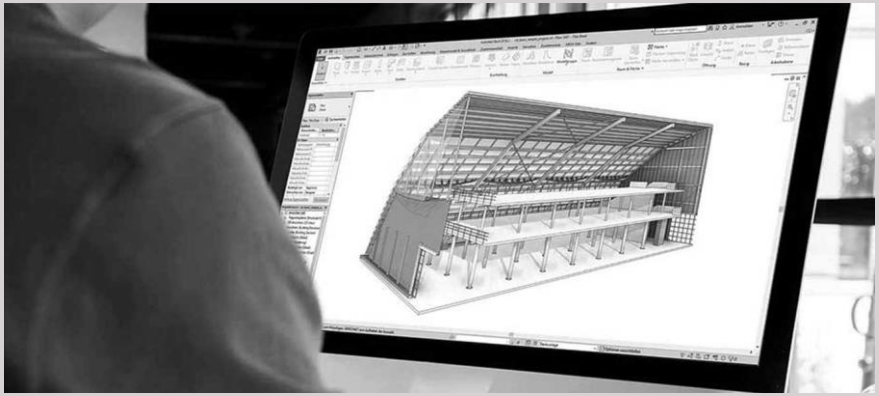
BIM – wesentliche Merkmale(2)
Ein Objekt, viele Beteiligte



Quelle: SIA Merkblatt 2051

BIM – wesentliche Merkmale(3)
Daten beim Fachplaner

- Daten entstehen beim Fachplaner, nicht beim Datenspezialisten.
- Fachspezialist muss auch Datenspezialist sein.



Quelle: https://www.buildinformed.com

BIM – wesentliche Merkmale(4)
Internationale Normierung

acht grad ost

1. Starke internationale Normierung nicht nur über technische Standards, sondern auch Inhalte. (wobei das Beispiel LADM zeigt, dass Informatik kein Recht definiert, sondern die Informatik das Recht korrekt abbilden muss). Nicht nur retrospektiv (auf Erfahrungen basierend).
2. IFC als Datenmodell für verschiedene Anwendungsbereiche
   - Gebäude
   - Bahn
   - Strasse
   - Tunnels
3. Normen als EN für CH verbindlich

Demgegenüber im GIS nur LADM bekannt (ISO, unverbindlich)

Gute und harmonisierte Daten
Normierung «GIS-Welt» CH

1. GeoIG, Art 4 Harmonisierung:

   „Die qualitativen und technischen Anforderungen an Geodaten und Geometadaten sind so festzulegen, dass ein **einfacher Austausch** und eine **breite Nutzung** möglich sind.“

Aspekte der Harmonisierung
Geoinformationsgesetz, Art 5.

acht grad ost

1. Daten- und Darstellungsmodell,
2. Detaillierungsgrad und räumliche Abgrenzung,
3. Erheben und Nachführen,
4. Qualität,
5. Austausch,
6. geodätischen Bezugssysteme und Bezugsrahmen.

GeoIG ist eine Erfolgsgeschichte!
International anerkannt

achtgradost

TS08J: Ten Years of Law on Geoinformation in Switzerland – Trends, Challenges and Impact
Commission: 7
Chair: Mrs. **Gerda Schennach**, Austria

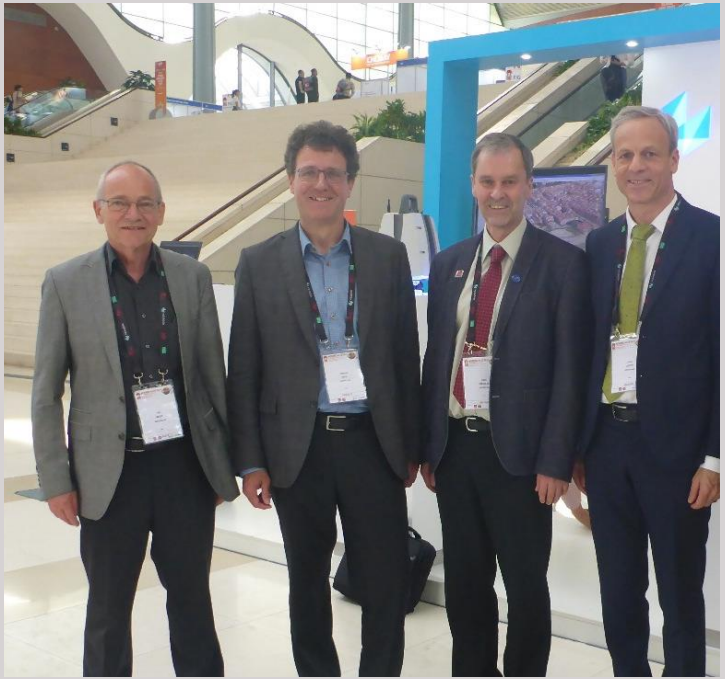
Switzerland has been recognized as a world best practice in cadastre and land registration system. However, even the best systems need to adjust to new challenges and community trends, which happened in Switzerland ten years ago with the enactment of the new Law on Geoinformation. Join us in this session to learn what the Swiss cadastre is doing in terms of policies and projects to keep up with the changing environment.

Daniel Steudler (Switzerland):
10 Years of "Law on Geoinformation" in Switzerland – The International Context (9929)
[abstract] [paper] [handouts]

Christian Kaul (Switzerland):
10 Years of "Law on Geoinformation" in Switzerland - Current Situation and Outlook (9938)
[abstract] [paper] [handouts]

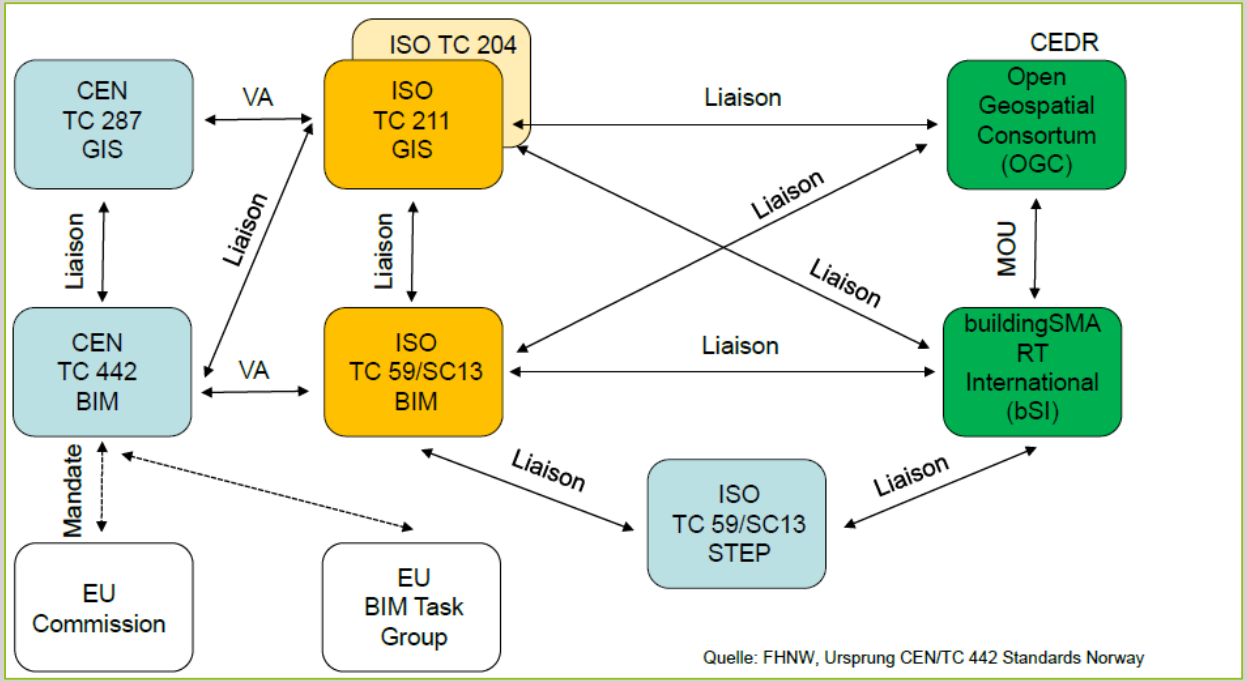
Jürg Lüthy (Switzerland):
10 Years of "Law on Geoinformation" in Switzerland – Core Features of a Successful National Spatial Data Infrastructure (9939)
[abstract] [paper] [handouts]

Helena Åström Boss (Switzerland):
10 Years of "Law on Geoinformation" in Switzerland – A Federative Organisation Requires Clear Rules and Responsibilities (9942)
[abstract] [paper] [handouts]



BIM & GIS – zwei Welten?

GIS & BIM – eng verschachtelt
Internationale Normierungsgremien…

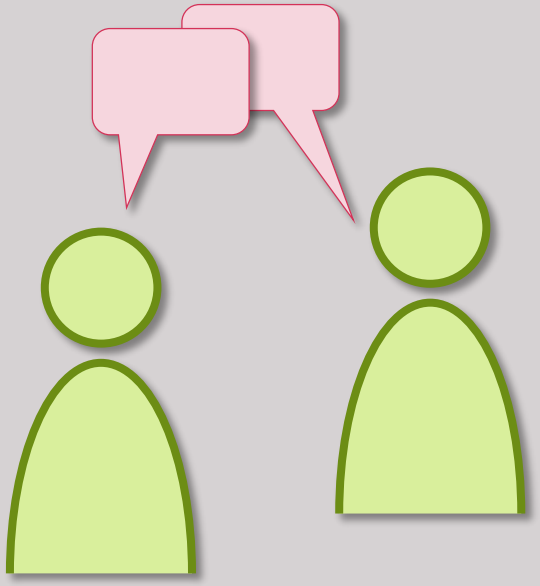


Erfolgsfaktor: Terminologie
«Modell = Modell?»

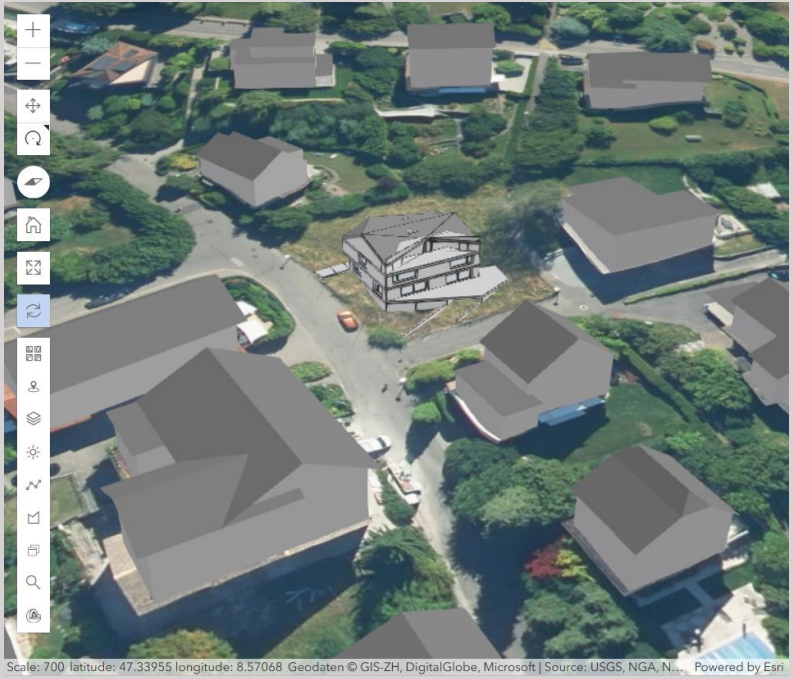
achtgradost

- «Gemeinsame Sprache»
- Verständnis und Kenntnisse der Anforderungen und Arbeitsweisen der Gegenseite

→ Gemeinsames Verständnis



BIM & GIS – gemeinsame Entwicklung



Quelle: WebGIS Acht Grad Ost AG / Gemeinde Zollikon

«Holistic information system»
Spatial is not special

- Auf einen Touch («Klick») sind alle mir wesentlichen Informationen zu einem Objekt oder einem Sachverhalt zugänglich.

Holistic information system

Quelle: Cadastre 2034
Land Information New Zealand

Kontaktinformationen

Acht Grad Ost AG
Wagistrasse 6
CH-8952 Schlieren
T +41 43 500 44 00
F +41 43 500 44 99

schlieren@achtgradost.ch
achtgradost.ch

Kontakt
Juerg.Luethy@achtgradost.ch
D +41 43 500 44 48

carla.thoma@achtgradost.ch
D +41 43 500 44 20