National Report of Switzerland

Geostation Zimmerwald

- 3 sites deliver GPS/GNSS data to IGS/EUREF
- ZIMJ receiver stopped 22.Okt. 2010; new Javad Galileo receiver installed

Local tie: Sunny day

1 cm 4 days: ZIM2-ZIMJ
Permanent GNSS Network AGNES: Bernese software analyses

<table>
<thead>
<tr>
<th>Network (#stations)</th>
<th>Availability</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUREF subnet (50)</td>
<td>100% daily</td>
<td>Reference Frame Europe</td>
</tr>
<tr>
<td>AGNES + subnet EUREF (118)</td>
<td>100% daily</td>
<td>Reference Frame Switzerland</td>
</tr>
<tr>
<td>AGNES + subnet EUREF (115)</td>
<td>98% hourly</td>
<td>Monitoring + weather prediction</td>
</tr>
</tbody>
</table>

**EUREF**
(day)

**AGNES**
(day and hour)
Additional stations

- Close the border and integrated also in positioning service

- ~10 Swiss third-party sites (all focus on geodynamics)
- New computer + processing in 3 clusters: hourly solutions 40% faster
CHTRF2010: 15 weeks / 15 pictures

-> paper CHTRF2010 (E. Brockmann)
Positioning service: swipos

- Increased licenses and reduced prices (30%)
- Products:
  - data streaming via NTRIP of an AGNES station: swipos-INFRA (prices identical as swipos-PP)
  - new user segment: agriculture
- Redesign of the swipos/AGNES operation:
  - S2S+ (ADSL+ GSM/GPRS) 99.7% availability
  - removal of PC at the station (not at double stations)
  - new network software and new private provider
Cut-Through AlpTransit Gotthard Base Tunnel (57 km)

- GNSS: LV95 as reference for the tunnel project plus 31 additional control points
- Heights: in old system LN02, but corrected with information from new LHN95 (plus CHGeo98 geoid) plus only 30 km levelling to portals

15.10.2010 Sedrun cut-through-results:
Cross: 8.1 cm (Tol.: 25 cm)
Height: 1.1 cm (Tol.: 12.5 cm)

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