

Activities GEOFON Engineering Team 2016

Date	Station	Project	Location	Type	Carried Out	Description
08.11.2015 19.01.2016	CISI	GEOFON	Cisompet Indonesia	Remote Repair Support	Michael Günther/ Wolfgang Kohl	Station experienced repeated security incidents and the local partner decided to close it down and eventually move the equipment to a new location. Remotely supported the safe dismantling, transport and storage of relevant station equipment by the local partner institute.
Station CISI was closed in 12/2015: http://geofon.gfz-potsdam.de/fdsnws/station/1/query?network=GE&station=CISI&format=text&level=channel						
28.01. - 03.02.2016	DAG	GEOFON	Danmarkshavn Greenland	Remote Repair Support	Thomas Zieke	Station offline, no data. Troubleshooted issue, outage caused by a combination of a broken wire to the antenna and a lock down of the access point in the shelter. Problem was fixed on-site by our partner institute.
02.02.- 03.02.2016	RGN	GEOFON	Ruegen Germany	On-Site Repair/ Upgrade	Thomas Zieke	The EDD Digitizer was broken, no data recorded. On-site replacement of digitizer (same model), preventive maintenance and test.
02.02. - 09.02.2016	TIRR	GEOFON	Tirgusor Romania	Remote Repair Support	Thomas Zieke	Station has a timing problem. Local partner institute checked GPS antenna and cable from antenna to digitizer on-site. Disconnected power supply from digitizer, checked and replugged the connector from/to the GPS antenna. This solved the issue.
15.02. - 17.02.2016	ISP	GEOFON	Isparta Turkey	Remote Repair Support	Andres Heinloo	Although station is reachable via VSAT, both seedlink and ssh port give a connection refused. A restart of seiscamp-box on-site by our partner institute solved the issue.
20.02.- 03.03.2016	HALK MALK	GEOFON	Hakmana Mahakandarawa Sri Lanka	Hardware Preparation/ Shipment	Thomas Zieke	Configure and test all necessary parts for VSAT upgrade in HALK and MALK (new modem, LNB, BUC) and ship it to partner institute in Male.
08.03.- 06.05.2016	SUMG	GEOFON	Summit Greenland	Hardware Preparation/ Shipment and Remote Repair Support	Thomas Zieke	Failure of Seiscamp box, preparation, configuration and test of a new Seiscamp box. Shipment to Summit and remote support for the science technicians on-site to exchange it at the station.
13.03. - 15.03.2016	PBUR	GEOFON	Paburge Lithuania	Remote Repair Support	Thomas Zieke	Communication system problem, station offline, no data. Problem related with cellular network or 2G/3G modem. Our partner made a phone call to customer support of mobile operator and connection with the station recovered.

Activities GEOFON Engineering Team 2016

Date	Station	Project	Location	Type	Carried Out	Description
16.03.- 24.03.2016	A026A A015A A029A	ALPARRAY	Austria	On-Site Repair/ Upgrade	Thomas Zieke	Exchange and test new solar controllers at 3 stations to enable power management at alparray stations. This is to prioritize the seismic system recording over communication system in times of energy shortage.
20.04. - 27.06.2016	WIN	GEOFON	Windhoek Namibia	Hardware Preparation/ Shipment	Thomas Zieke	Station is offline, no communication link for more than 70 days. Bought and configured an UMTS modem (RUT950) and shipped it to Namibia in order to integrate a second communication system at the station.
25.04.- 02.05.2016	DSB	GEOFON	Dublin Ireland	Hardware Preparation/ Shipment	Thomas Zieke	Failure of DSL-based communication system caused repeated downtimes of several weeks. Prepared new power box with UMTS modem (RUT 905), new Seiscomp box, new Christec charger and GPS-Antenna tested and shipped to partner institute (DIAS).
01.05. - 03.05.2016	VSU	GEOFON	Vasula Estonia	Remote Repair Support	Andres Heinloo	Station offline, no data. A broken power supply of router was exchanged by our partner institute and station came back online.
09.05.- 28.07.2016	HMDM	GEOFON	Hanimadhoo Maldives	Hardware Preparation/ Shipment and Remote Repair Support	Thomas Zieke	New Freewave modem shipped to HMDM to replace damaged one at location. Remote support for local partner when exchanging it in Hanimadhoo.
18.05.- 23.05.2016	A034A	ALPARRAY	Austria	On-Site Repair/ Upgrade	Günter Asch/ Thomas Zieke	Moved complete station A034A to a new location, because the data quality on previous site didn't fulfill expectations.
19.05. - 31.05.2016	IFR	WM-Net	Ifrane Morocco	Remote Repair Support	Thomas Zieke	Station not reachable as it has an internet problem. Contacted local partner and they were able to solve the issue with the support of the provider.
27.05. - 16.11.2016	SFS	WM-Net	San Fernando Spain	Remote Repair Support	Andres Heinloo Thomas Zieke	GPS problem at the station, timing quality getting worse by the day. Analysed the issue, it is caused the GPS receiver of the Q730. This type is obsolete and was replaced with an EDR-209 by our partner institute. Reconfigured seiscomp metadata and problem was solved.
Metadata for SFS changed in 11/2016: http://geofon.gfz-potsdam.de/fdsnws/station/1/query?network=WM&station=SFS&format=text&level=channel						

Activities GEOFON Engineering Team 2016

Date	Station	Project	Location	Type	Carried Out	Description
30.05.- 07.06.2016	HALK MALK	GEOFON	Hakmana Mahakandarawa Sri Lanka	On-Site Repair/ Upgrade	Martin Haxter	VSAT Repair/Upgrade at both Sri Lankan sites in HALK and MALK. Exchange of VSAT indoor unit (Evolution X3) and outdoor unit (BUC, LNB). Test and commissioning of VSAT link with satellite provider.
31.05.- 06.06.2016	DSB VAL ILTH IWEX IGLA IDGL	GEOFON INSN	Dublin Valentia Ireland	On-Site Repair/ Upgrade	Thomas Zieke	Travel to 2 GEOFON and 4 INSN seismic stations to align seismic sensor using a gyrocompass. Complete station upgrade at DSB (seismic system, communication system and power system). Install new UMTS modem for RT-data transfer and replace old power box and battery charger. Install new seiscomp box and GPS for timing, including configuration and test.
30.06.2016	MT	GENERAL GFZ	Wittstock Germany	On-Site Repair/ Upgrade	Thomas Zieke	Prepare, configure and install VSAT system (antenna, modem) at the Magnetotelluric Reference Station for RT-data transfer. Test and recommission of the link with satellite provider.
12.07.- 14.07.2016	A026A	ALPARRAY	Austria	On-Site Repair/ Upgrade	Thomas Zieke	No data was recorded at the station. Analysis showed hardware failure of digitizer (EDR210). Replacement of the hardware with new one of the same type. Configuration and test of new setup.
16.07.- 19.07.2016	HLG	GEOFON	Helgoland Germany	On-Site Repair/ Upgrade	Michael Günther/ Thomas Zieke	Organized together with University Kiel and BGR. Upgrade communication system. Install UMTS modem for RT-data transfer to GFZ Potsdam to reduce operational costs. Rework, upgrade and test power system (new type "power box"). Installation and integration of a new sensor Microbarograph MB2000 (BGR) into existing seismic station (power and communication system). Test the new setup and reconfigure data acquisition system at GFZ Potsdam.
11.08.- 14.08.2016	SUMG	GEOFON	Summit Greenland	Remote Repair Support	Thomas Zieke	Troubleshoot sensor problem. Remote support the science technicians on-site to re-level broadband sensor.

Activities GEOFON Engineering Team 2016

Date	Station	Project	Location	Type	Carried Out	Description
22.08.- 23.08.2016	RUE	GEOFON	Ruedersdorf Germany	On-Site Repair/ Upgrade	Michael Günther/ Thomas Zieke	Review power cabling and upgrade power system (new type "power box"). Upgrade communication system. Install UMTS modem for RT-data transfer to reduce operational costs. Test the new setup and sync/reconfig the seismic acquisition system at GFZ.
20.08. - 01.09.2016	TNTI	GEOFON	Ternate Indonesia	Remote Repair Support	Michael Günther	Station offline no data. Remote troubleshooted the problem. Overvoltage (>400V) entered the system from mains power supply and destroyed battery chargers. Local partner exchanged the damaged pieces and problem was solved.
05.09. - 14.09.2016	BBJI	GEOFON	Indonesia Bungbulang	Remote Installation Support	Michael Günther/ Wolfgang Kohl	The equipment of former GEOFON station CISI was moved and reinstalled at a new location near Bungbulang/ Java. Some parts of the power system had to be renewed (batteries, controllers). Remotely supported the local partner institute during installation. Reconfiguration and test of the full setup.
Station BBJI was opened 09/2016: http://geofon.gfz-potsdam.de/fdsnws/station/1/query?network=GE&station=BBJI&format=text&level=channel						
20.09.- 29.09.2016	BJÖ SVA ARN HEM BRE ÖRT JÄV LIL BTD ERT	LITHOSCAPP	Sweden	On-Site Repair/ Upgrade	Ben Heit/ Thomas Zieke	Dismantling of the temporary seismic network contributing to SCANARRAY in Sweden. Collect all equipment of the 10 GFZ stations and transport everything back to Potsdam.
24.08.- 19.10.2016	SBV	GEOFON	Sambava Madagaskar	Remote Repair Support	Angelo Strollo/ Elisa Josiane Rindraharisaona Thomas Zieke/	Station was not stable online. Transfer of money to partner institute for purchase new batteries in Madagaskar. Remote support to replace them in Sambava in cooperation with local partner, incl. Troubleshooting and test.

Activities GEOFON Engineering Team 2016

Date	Station	Project	Location	Type	Carried Out	Description
01.09.- 23.09.2016	GAHJ BAQJ	DESERVE	Ghor Harditha Balqa Jordan	Hardware Preparation/ Shipment	Michael Günther/ Thomas Zieke	Assemble all necessary parts for a new multi-sensor station in BAQJ (Seismic-GPS, solar powered, UMTS based communication) and test run it at GFZ Potsdam. Prepare and test power and communication equipment to upgrade existing station in Ghor Harditha (BAQJ). Pack the shipment for both sites and organize necessary papers for custom clearance in Jordan.
28.09.- 12.10.2016	BMKG	GEMPA	Jakarta Indonesia	Training/ DC Maintenance	Michael Günther/ Bernd Weber	Maintenance of the INATEWS data center at BMKG. Hands-on training of responsible staff in partner institute about seismic station metadata management and configuration of processing systems used for national earthquake monitoring and tsunami warning service. Analysis of configured metadata for all stations in IA network.
						Fix of wrong metadata configuration of UBSI, TPRI, SDSI, SCJI, MASI, KMPI, LWLI: http://geofon.gfz-potsdam.de/fdsnws/station/1/query?network=IA&station=UBSI&format=text&level=channel http://geofon.gfz-potsdam.de/fdsnws/station/1/query?network=IA&station=TPRI&format=text&level=channel http://geofon.gfz-potsdam.de/fdsnws/station/1/query?network=IA&station=SDSI&format=text&level=channel http://geofon.gfz-potsdam.de/fdsnws/station/1/query?network=IA&station=SCJI&format=text&level=channel http://geofon.gfz-potsdam.de/fdsnws/station/1/query?network=IA&station=MASI&format=text&level=channel http://geofon.gfz-potsdam.de/fdsnws/station/1/query?network=IA&station=KMPI&format=text&level=channel http://geofon.gfz-potsdam.de/fdsnws/station/1/query?network=IA&station=LWLI&format=text&level=channel
02.10.- 17.10.2016	SUMG	GEOFON	Summit Greenland	Remote Repair Support	Thomas Zieke	GPS antenna problem caused issues with timing on seismic recording system. Remote support to exchange the antenna with a spare already at location.
04.10.- 25.10.2016	SUMG	GEOFON	Summit Greenland	Hardware Preparation/ Shipment and Remote Repair Support	Thomas Zieke	Preparation, configuration and test of a new breakout box for Summit to enable remote re-centering of broadband sensor. Shipment to Summit and remote support for the science technicians on-site to exchange it at the station.
28.10.2016	MT	GENERAL GFZ	Wittstock Germany	On-Site Repair/ Upgrade	Michael Günther/ Thomas Zieke	Realign VSAT antenna and recommission of the satellite link with provider at the Magnetotelluric Reference Station in the forest near Wittstock. Replacement of the metal feed support to reduce interference of Satellite communication system with of magnetotelluric measurements.

Activities GEOFON Engineering Team 2016

Date	Station	Project	Location	Type	Carried Out	Description
28.10.- 02.11.2016	KAAM HMDM	GEOFON	Kaadedhoo Hanimadhoo Maldives	Hardware Preparation/ Shipment	Michael Günther	Prepare and test power equipment to repair the GEOFON stations in Maldives. Communicate necessary replacements and repair activities with local partner organization. Organize shipment and papers for custom clearance.
18.11.- 30.11.2016	BMKG	GEMPA	Jakarta Indonesia	Workshop/ DC Maintenance	Michael Günther, Angelo Strollo	Maintenance of the INATEWS data center at BMKG. Workshop with responsible staff to discuss and improve the standard operational procedures of the national earthquake monitoring and tsunami warning service.
15.11.- 08.12.2016	PB01 PB02 PB03 PB04 Pb05 PB06 PB07 PB09 PB15 PB16 PB18 PX02 PX03	IPOC	Chile	On-Site Repair/ Upgrade	Günter Asch/ Thomas Zieke	On-site maintenance at 9 multi-sensor stations (PB01-PB015). Replacement of motherboards at all MT digitizer (EDR). Modified at two stations the Kinematics strong motion sensor box installed in the field (PX02, PX03). Configured, integrated and tested UMTS modems at these two locations for real-time data transfer to GFZ Potsdam. VSAT repair and general preventive maintenance at seismic station (PB18). General preventive maintenance at seismic station (PB16).
20.12.- 22.12.2016	HMDM	GEOFON	Hanimadhoo Maldives	Remote Repair Support	Michael Günther	Remotely support local personnel on-site to troubleshoot and replace broken power equipment at Hanimadhoo (solar controllers and batteries). Test station setup and data transfer.
20.12.- 22.12.2016	A029A	ALPARRAY	Austria	On-Site Repair/ Upgrade	Thomas Zieke	The digitizer at the station failed to work (EDR210), no data recorded. Troubleshooting (seedlink, broken flash card), replacement, configuration and test.