Hardware

Long-Mid Range Scanners:

Optech ILRIS 3D | Leica C10 | Z+F 5006i

The Optech and Leica scanners are "time of flight" systems and the Z+F is a phase based system. The Optech has an exceptional range of 3 m to 800 m (and up to 1 km in selected situations) and it acquires data at some 2,000 points/second. The Leica C10 has an effective range of <1 m to 300 m and it acquires data at 50,000 points/second. It is particularly effective in integrating scan data with traditional survey data. The Z+F has an effective operating range of < 1 m to 50 m and it can acquire some 500,000 points per second. The Leica and Z+F have powered heads allowing acquisition of 360 degree (horizontal) x 270-310 degree (vertical) data. All three scanners have a published accuracy in the single millimeters.

Short-Close range Scanners:

Breuckmann HE | Konica-Minolta Vivid 9i

The Center has two close range scanners – the Breuckmann smartScan HE and the Konica-Minolta Vivid 9i. The Breuckmann is a fringe projection based system. Its published specifications indicate that its feature accuracy is 9 micro-meters (0.009 mm or 0.00035 inch) . The Minolta is a "triangulation light block" based system and its operating range is approximately 0.5 m to 2.5 m and the nominal accuracy is 0.6 m is +/- 0.05mm (0.00016 inch). The equipment acquisitions were made possible with support from NSF Grants 0321286 and 0918070 as well as funds form the Leica Geosystems Chair.