



GEOMAT

4th Edition Iași 3 – 6 November, 2016

"Spatial information Management for sustainable development"

***"Capture the world
with Hexagon-Leica Technologies"***

Top Geocart



- when it has to be **right**

Leica
Geosystems



Leica Geosystems – Milestones in the Development of Precision Instruments – Heerbrugg

The main timeline is organized into columns by year and rows by category:

- Company History:** 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010.
- Surveying Instruments:** 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010.
- Photogrammetry Instruments:** 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010.
- Special/Military Instruments:** 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010.
- Microscopy Instruments:** 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010.

Callout 1 (Left): Focuses on the years 1921, 1922, and 1923. It features a large image of Heinrich Wild climbing a mountain peak, a portrait of Heinrich Wild, and a small image of a house. Text: "After the difficult survey on Dent du Midi (1902) Heinrich Wild started searching for easier ways to build surveying instruments".

Callout 2 (Right): Focuses on the years 2003, 2004, 2005, 2006, 2007, 2008, and 2009. It features a large image of a total station (TPS) assembly and a reception area in Heerbrugg. Text: "Total station (TPS) assembly" and "Reception in Heerbrugg (Switzerland)".

Page Footer: 3

Leica Geosystems Logo: - when it has to be right





1977 - The Magnavox X-Set was the first to track a GPS signal from space (NTS-2 Satellite GPS Experimental Satellite)

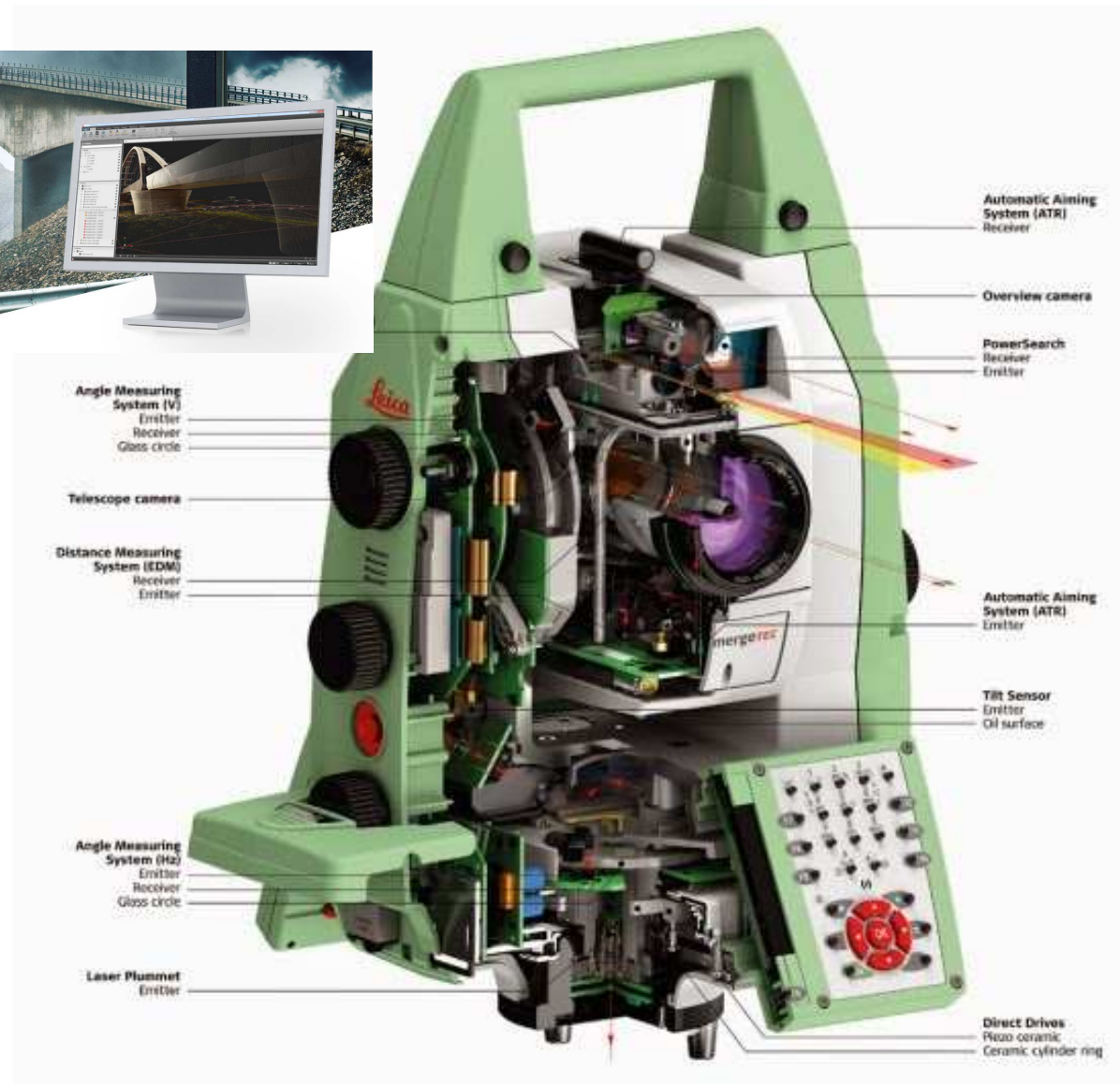


1978 - Introduced the world's first microprocessor based satellite survey instrument



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Data Collection by



HEXAGON



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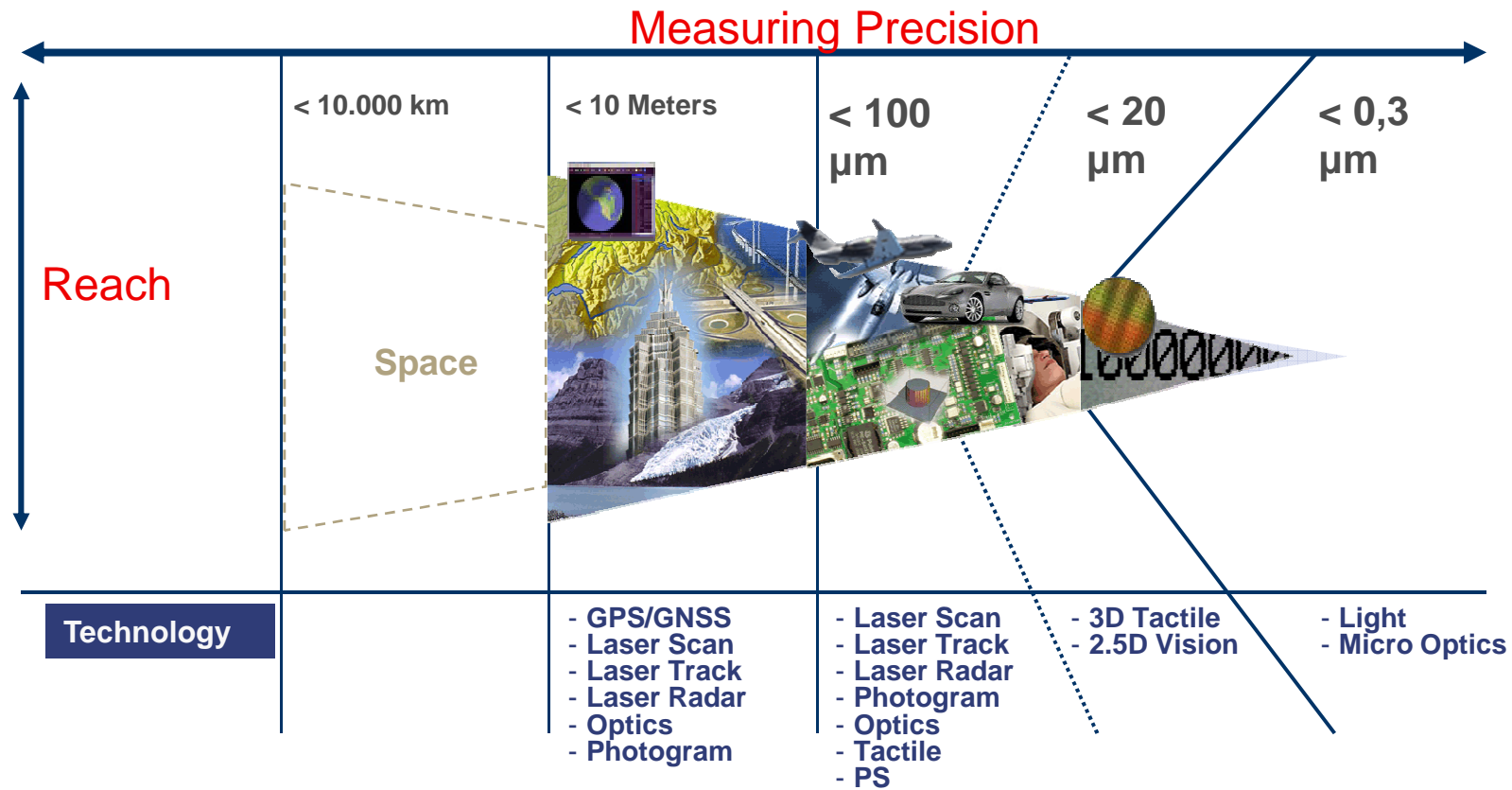


HEXAGON

Hexagon is a leading global provider of design, measurement and visualisation technologies. Our customers can design, measure and position objects, and process and present data to stay one step ahead of a changing world.



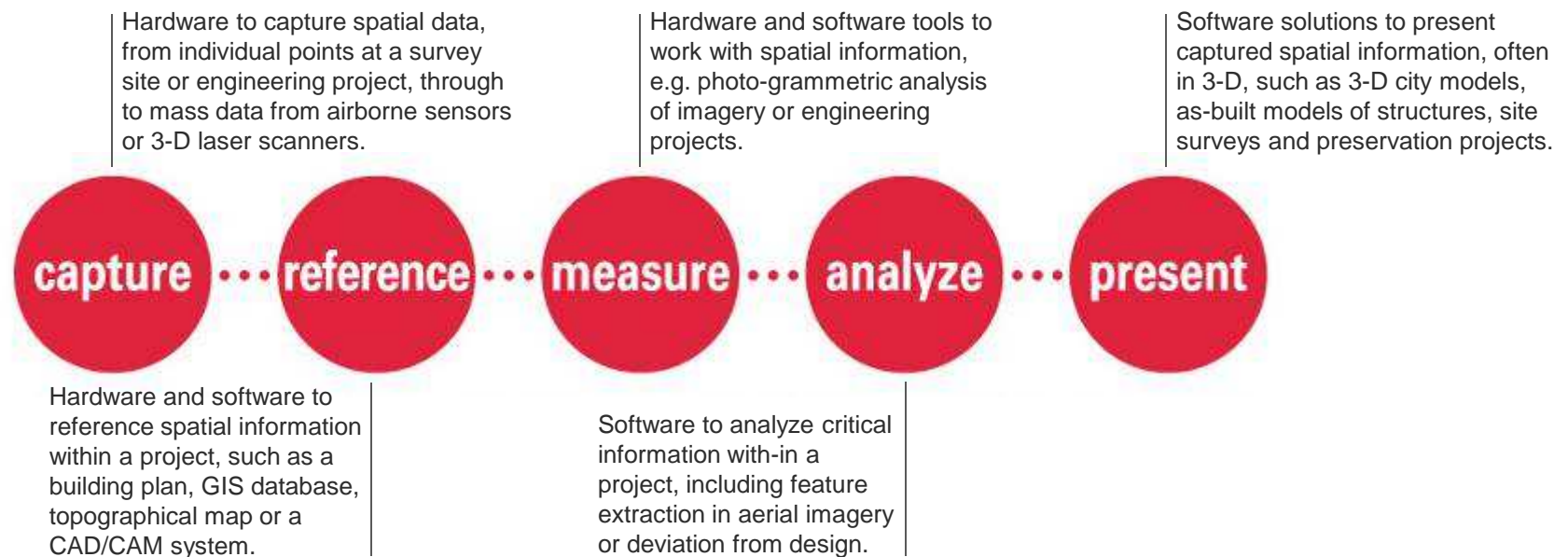
From space to nano technology



Spanning your workflow, taking the lead

Leica Geosystems strives to be the world's leading supplier of innovative solutions for capturing, modeling and presenting spatial information.

- Our range of highly successful products covers the entire workflow of the measurement process:



Modern Technologies for Quick and Efficient Datacapture

One Point



TPS



Zeno GNSS



DISTO™



Millionen of Points



Laserscanning



Pointcloud-Management



Pegasus Two

Picture based



Airbased



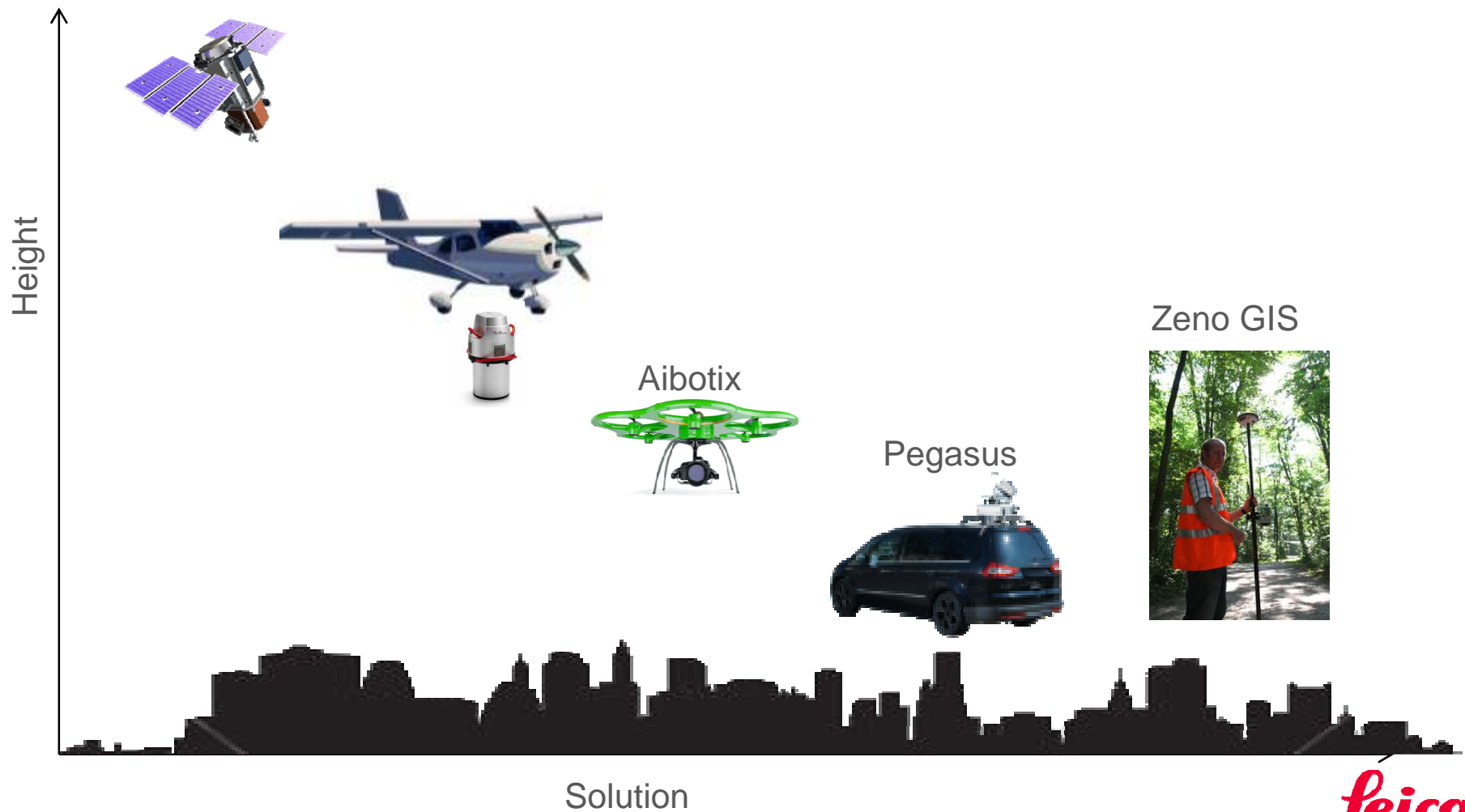
Satellitenbased



Photogrammetry



Data Collection



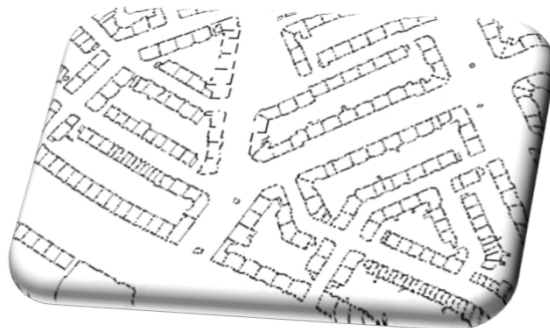


Stereo Imagery

automatic
(Semi Global Matching
algorithm)

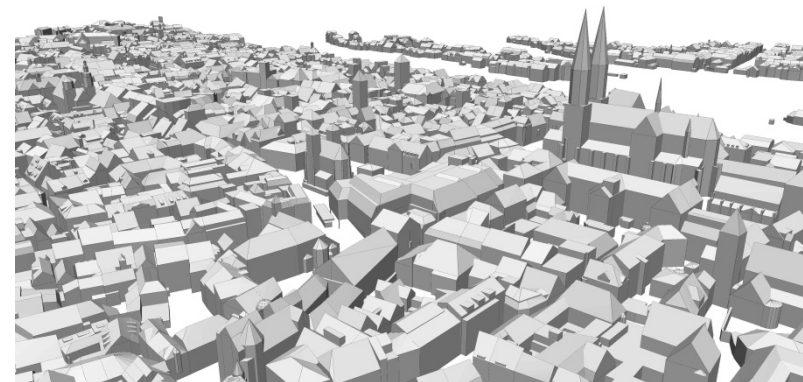


3D-point cloud/DSM
(if available also from LiDAR)



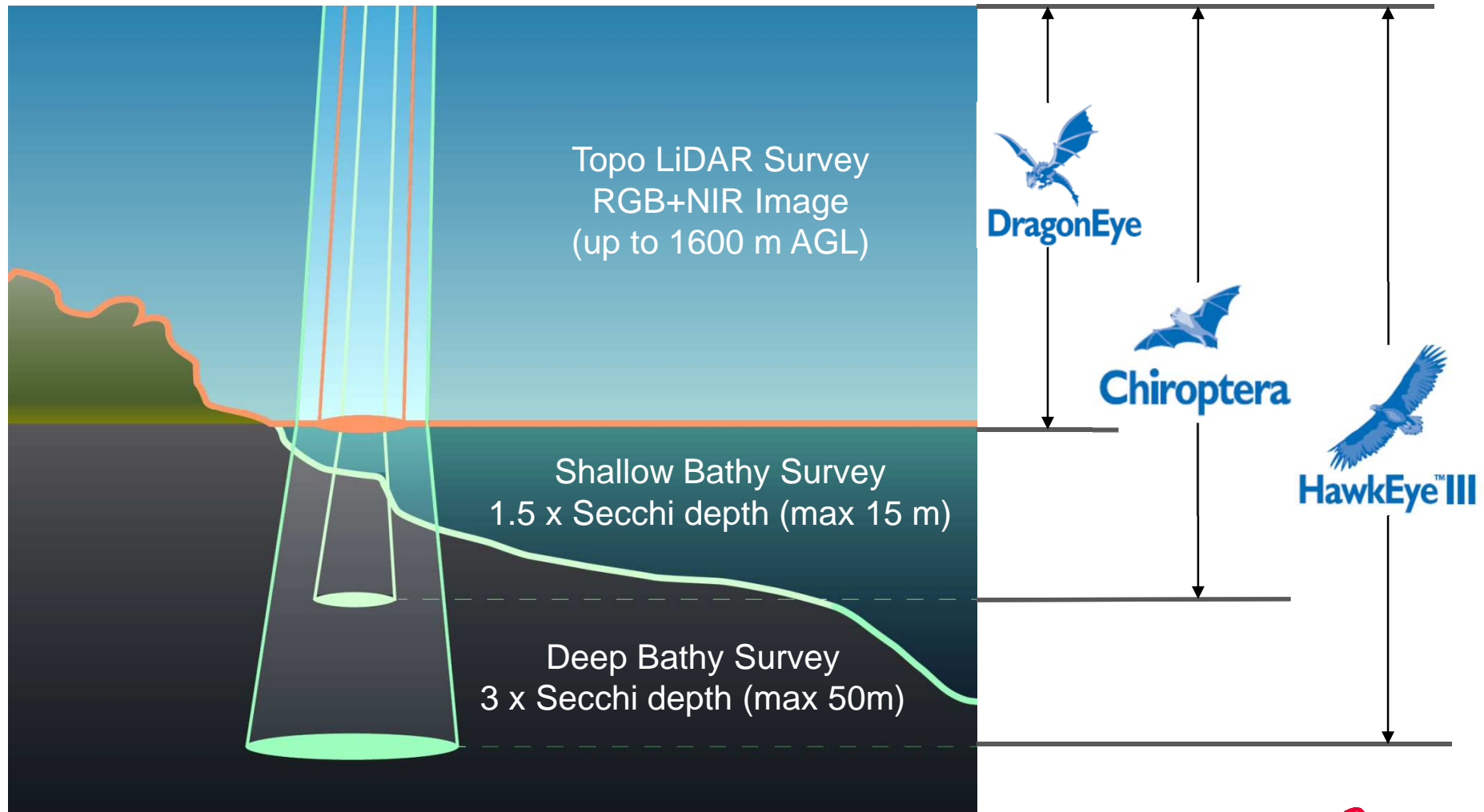
Building footprints

automatic



3D city model in LOD 2
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AHAB LiDAR Systems



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UAV Opportunities



Application
Mapping
Mining
Agriculture

- <50kg
- Cooperation with Swissdrones
- Legal framework is important
- 400k CHF incl RCD30 & workflow
- Requires Pilot

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Sensor platform

Platform



Aibot X6

Sensoric



Thermocamera



DSLR



Multispectral



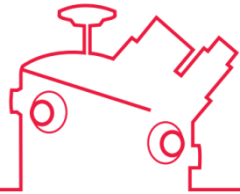
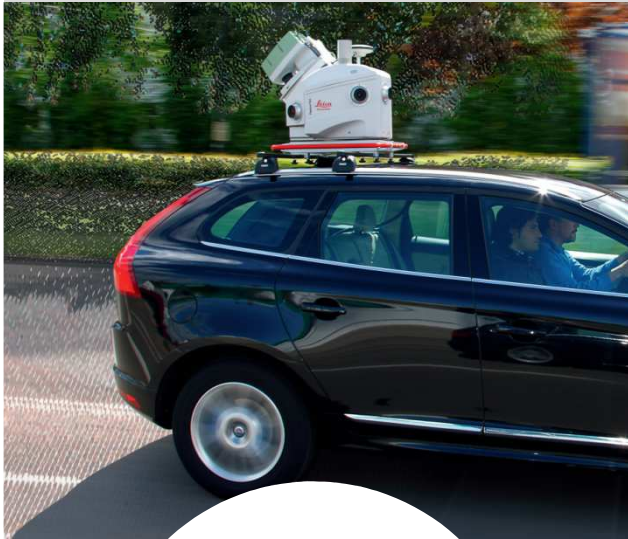
Laserscanner

...



Odorsensors

Applications and Industry Solutions!



Pegasus:Two
Vehicle independent

Transport

- Road and rail assessment
- 360° reality capturing
- Asset management
- Survey grade data for engineering

SiTrack:One by Leica Geosystems



- Improved safety for measuring
- Increased productivity with quicker reality capture
- Simple and easy handling of large amounts of data
- More convenience to work above ground or Underground
- Time and cost savings



Pegasus:Backpack
Wearable

Indoor & outdoor

- Building information modeling
- 3D professional documentation
- Construction progress monitoring
- Virtual surveying



LEICA GEOSYSTEMS INVENTED THE LASER DISTANCE METER OVER 20 YEARS AGO



1st Generation

Leica Geosystems presents the world's first hand held laser measurer at the Batimat Expo in France and is wins the Innovation Prize

1/8" accuracy, 100' range

Leica DISTO™ - Accuracy, Robustness and Reliability

1993

2015

The Leica DISTO™ S910 has a 300 meter range and introduces Smart Base technology including: Point 2 Point Smart Area and DXF capture/export to AutoCAD™.



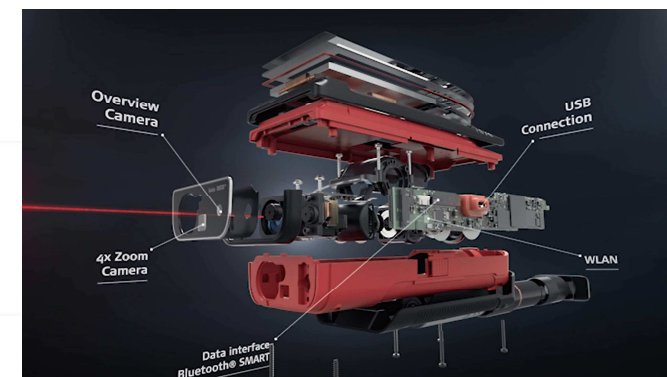
Leica DISTO™ D2

Equipped with Bluetooth and a longer measuring range of 330', this model has an *intelligent endpiece* that allows for more accurate diagonal measurements from hard to reach corners.

Additional features:

- Bluetooth® V4.0 Smart
- 330' Range
- Intelligent Endpiece





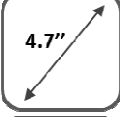






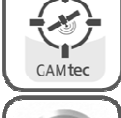


2016



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Leica Zeno 20

Best Features in Class – Best for GIS

Powerful dual core processor			All Day Battery
High-accuracy GNSS options			IP67 Ruggedness
Large capacitive screen			Dual Operating System support
Digital Camera			Lightweight
Bluetooth			3.8G or CDMA
Wireless LAN			gamtec
The Grip Zone			Integrated sensors such as Compass



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Leica Zeno Connect

Open for 3rd party



QUANTUM GIS



AutoCAD



Number permanently growing ...

- when it has to be right



Leica Zeno20 gamtec



esri & Leica Strategic Partnership

- We are Strategic Partner
- We are GOLD Esri Distribution Partner
- We have a common Solution Zeno Collector
- Esri is partnering the HxIP Program
- and more



ZenoCollector

High-Accuracy Data Collection Using Collector for ArcGIS® and ArcGIS® Online

ZenoCollector combines the world's leading GIS software from Esri with the hardware expertise of Leica Geosystems in surveying and geographical measurement, so you can boost efficiency of field crews, reduce errors in data collection, and always have the latest information at your fingertips.



Collector for ArcGIS on a Rugged, High-Accuracy Handheld

The ZenoCollector is the world's first handheld that combines Esri's industry-leading Collector for ArcGIS app with the accuracy of a professional GIS handheld collector. ZenoCollector enables data collection and editing in a simple, user-friendly interface on an ultrarugged device running Android.

What You Get with ZenoCollector

- Leica Zeno 20, a rugged Android-based handheld computer with a professional-grade, high-accuracy GPS receiver
- ArcGIS Online Level 1 Organizational Subscription Plan with five named users, a complete mapping platform that powers Collector for ArcGIS and connects field crews to your GIS system
- Collector for ArcGIS, a native app that enables data collection and editing in a simple, user-friendly interface



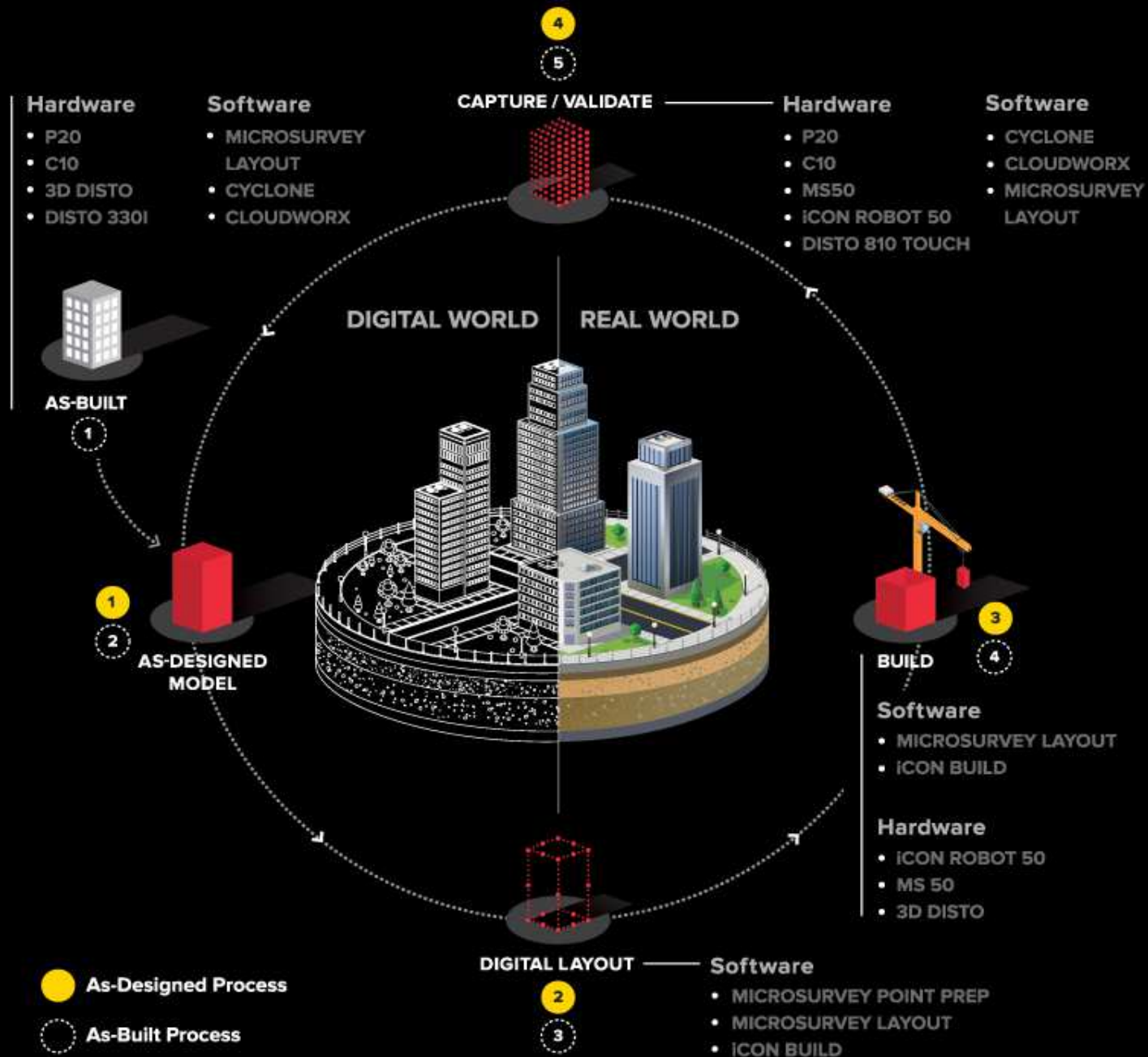
Leica Geosystems

Solutions for all measuring tasks



Solutions for all kind of applications







We
Make the
Digital world

**REAL
&
MOBILE**

**THANK
YOU!**



Questions

