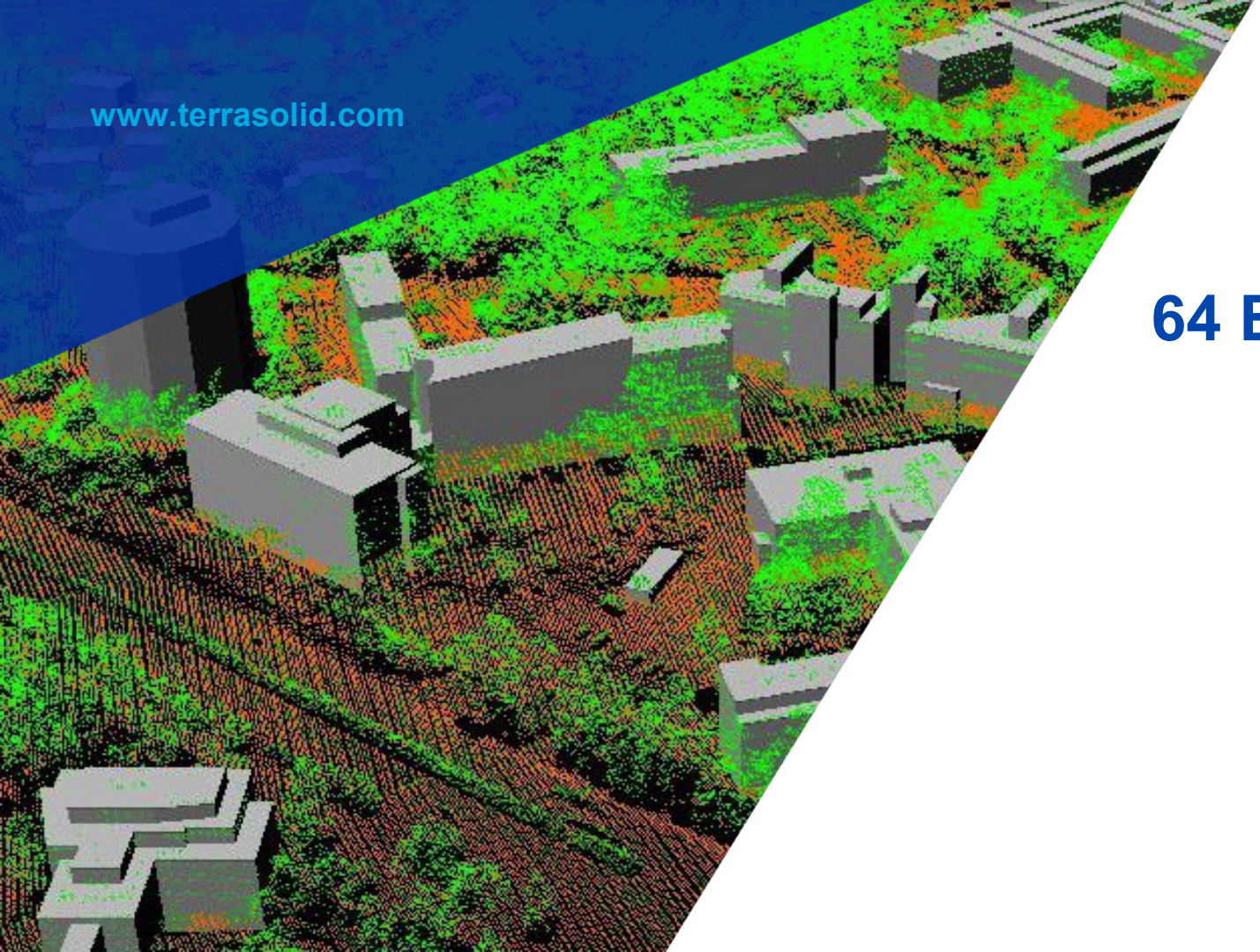

64 Bit Versions

Arttu Soininen 03.02.2016

Terra solid
POINT CLOUD INTELLIGENCE

64 Bit Applications

- 64 bit MicroStation Connect Edition was released 01.09.2015
- Some Terra applications released, some in beta phase, some under construction

Application	64 Bit Version
TerraScan	Released
TerraModeler	Released
TerraMatch	Released
TerraPhoto	Released
TerraSlave	Released (Windows)
TerraStereo	Released (Windows)
TerraBore	Beta
TerraSurvey	Under construction
TerraGas	Under construction
TerraHeat	Under construction
TerraPipe	Under construction
TerraStreet	Under construction

64 Bit Applications

- Code conversion for 64 bit MicroStation started 2013

- Same license as in 32 bit applications
- Customer can use both 32 and 64 bit versions on the same computer with one license

- Customers can continue to use 32 bit software for years
- TerraScan, TerraModeler, TerraMatch, TerraPhoto and TerraSlave:
  - New features appear only in 64 bit versions
  - 32 bit versions get bug fixes, only selected few new features

What changes going from 32 to 64 bits?

- Software does not become faster automatically – same processor power

- Applications can use more memory:
  - TerraScan block size restrictions lifted
  - No out of memory crashes
  - TerraPhoto can use more memory for caching images – some operations run faster

- More freedom in tool development – can use more memory to run faster and provide new capabilities

TerraScan block size

	32 Bit	64 Bit
Recommendation	20 million	100 million
Maximum count	30 million	1000 million

- Only RAM limits how many points one can read in at the same time
- Largest tested count: 4.5 billion

64 Bit Applications

- TerraSlave will run more tasks (also TerraPhoto / TerraMatch)
  - Implemented: import points into project (Scan)
  - Implemented: compute thumbnails (Photo)

- Runs max 128 threads (max 16 in 32 bit)
  - multi-core computer may be beneficial

- TerraScan tested with larger number of points loaded
- Speedup in operations which appear too slow
  - Faster display on screen
  - Better speed in some manual classification tools
  - Better speed in some automatic routines

64 Bit Applications & RAM

- More RAM the better
- 64 bit software uses more RAM per point than 32 bit software

RAM	
4GB	Stick with 32 bit software
8GB	64 bit software a little better than 32 bit Use 40-60 million per block
16GB	Recommended minimum 100 million point block practical
32GB	Flexible block size Can load 1000 million points for viewing