

BIM to Field

Ralph Vroegop
Sales engineer – BIM to Field



Leading in MEP design





United States Patent Office.

ALVIN J. FELLOWS, OF NEW HAVEN, CONNECTICUT.
Letters Patent No. 79,965, dated July 14, 1868.

IMPROVEMENT IN TAPE MEASURES.

The Schedule referred to in these Letters Patent and making part of the same.

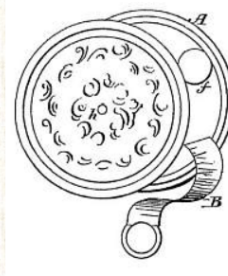


Fig. 1 (source)

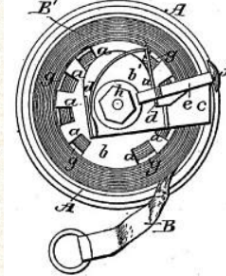


Fig. 2 (source)

TO ALL WHOM IT MAY CONCERN:

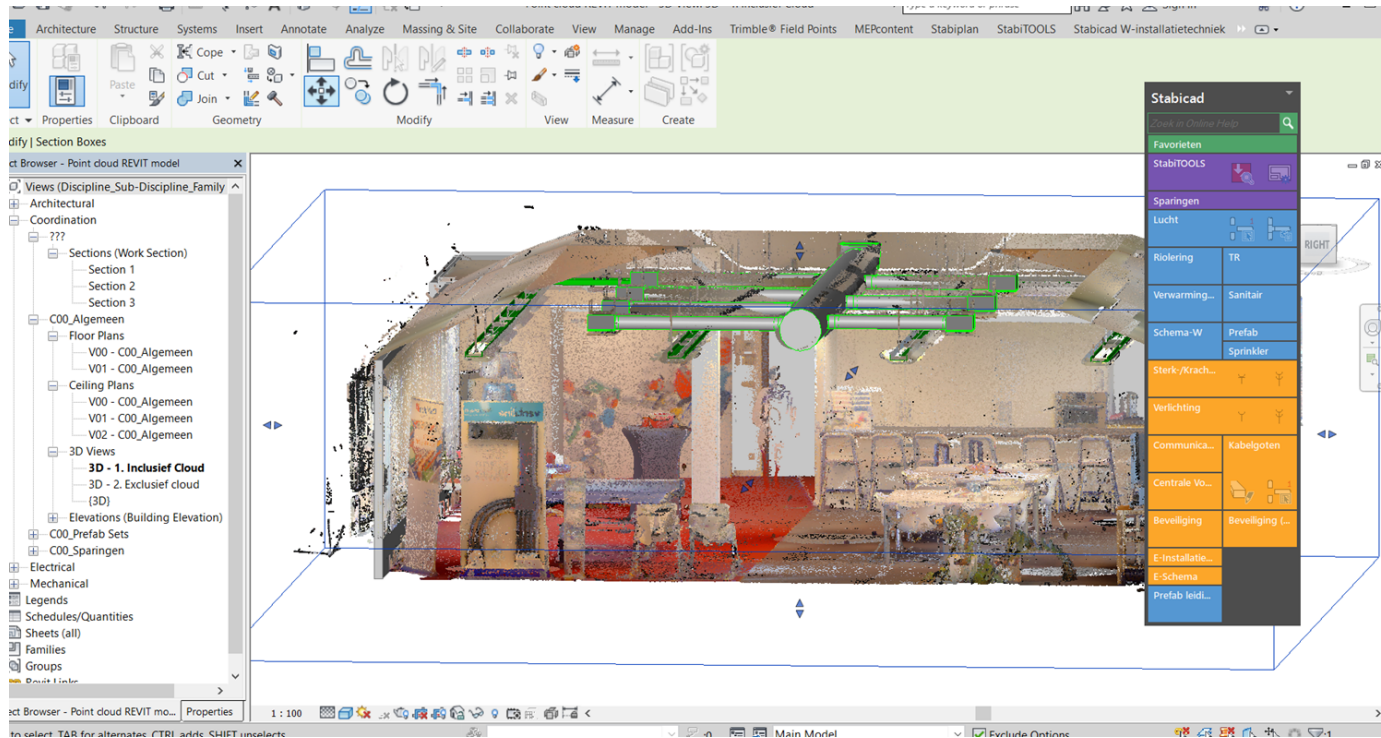
Be it known that I, ALVIN J. FELLOWS, of the city and county of New Haven, in the State of Connecticut, have invented a new and useful Improvement in Spring Measuring Tapes; and I do hereby declare that the following is a full, clear, and exact description of the construction, character, and operation of the same, reference being had to the accompanying drawings, which make part of this specification, in which —

Figure 1 is an enlarged perspective view of the apparatus as it will appear when ready for use.

Figure 2 is a plan of the same, with the movable side taken off, showing the internal structure of the apparatus.

My improvement consists in the manner of fitting the spring-click which detains the main or primary spring to the central part of the main-spring barrel, so as to hold the

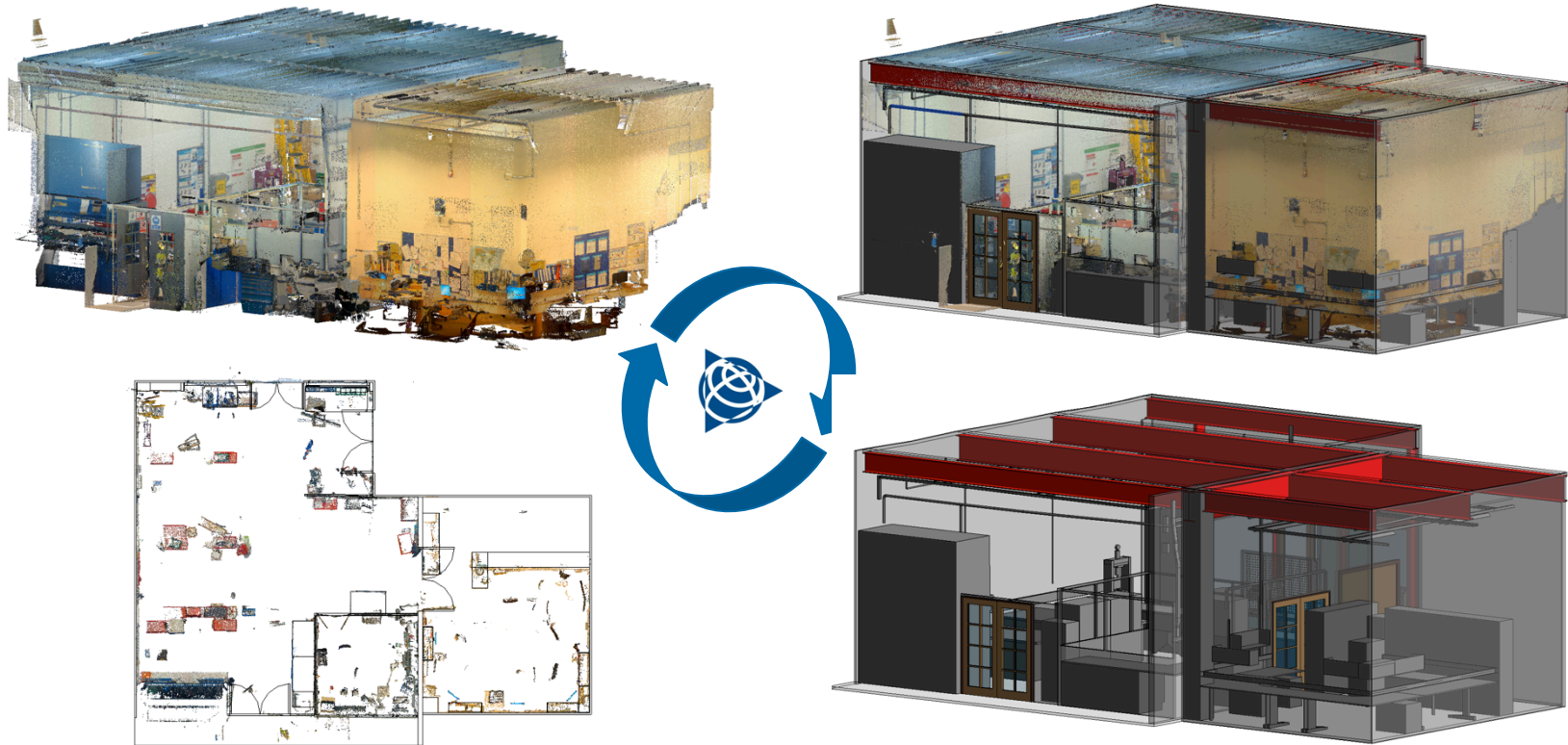
Scannen met de TRIMBLE TX series



Leading in MEP design



Workflow – van pointcloud naar model



Leading in MEP design

Waarom (bestaande) gebouwen scannen?



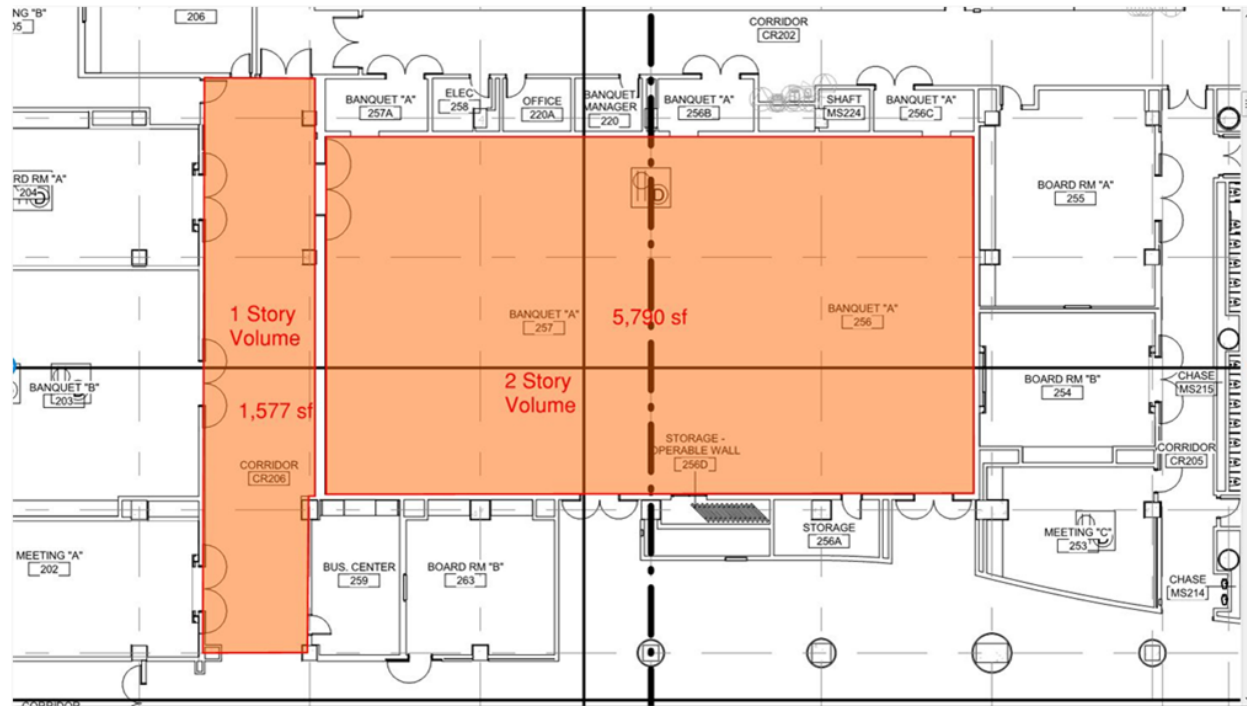
- Project wordt in BIM opgezet
- Grote hoeveelheden data, binnen kort tijdsbestek
- Nauwkeurig, elk punt heeft een eigen XYZ coördinaat
- Veilig
- Geen dubbel werk
- As build check



Leading in MEP design



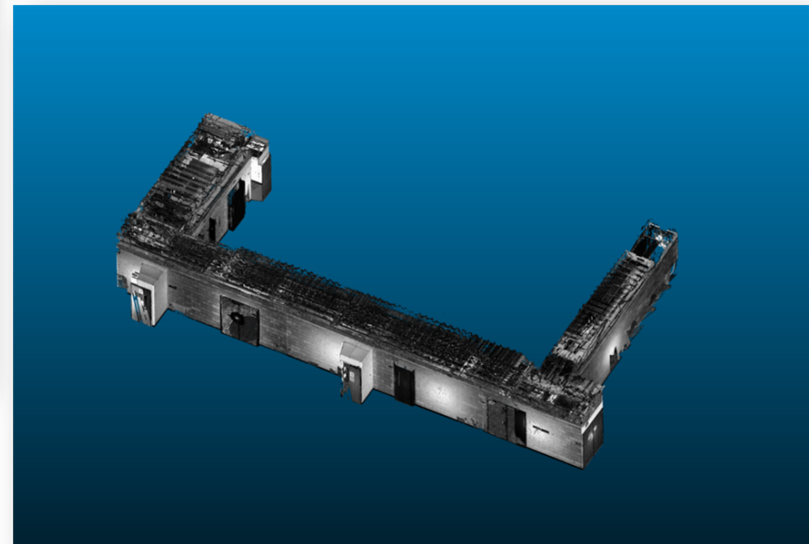
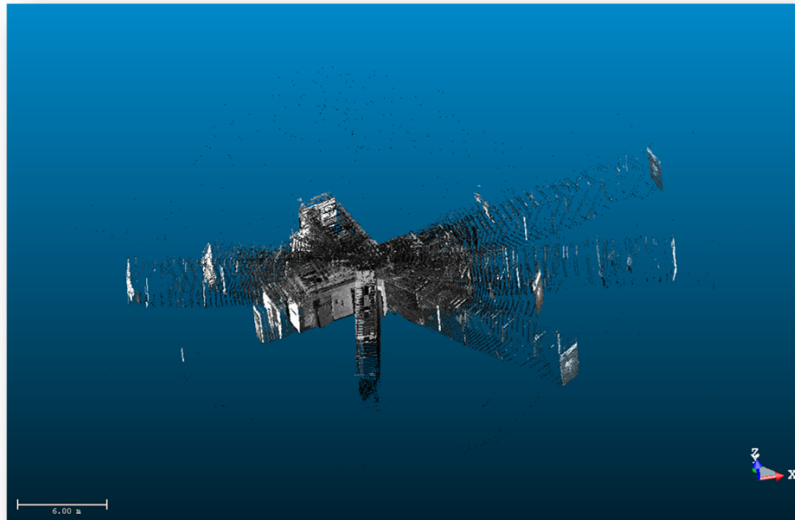
Workflow - Scannen



Leading in MEP design



Workflow - Scans registreren



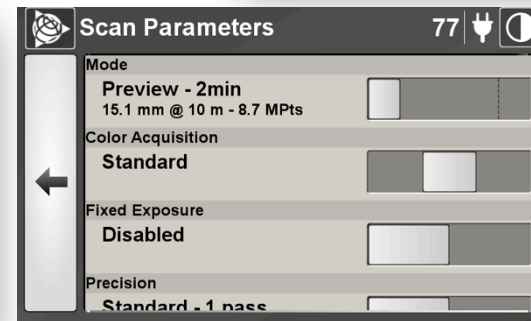
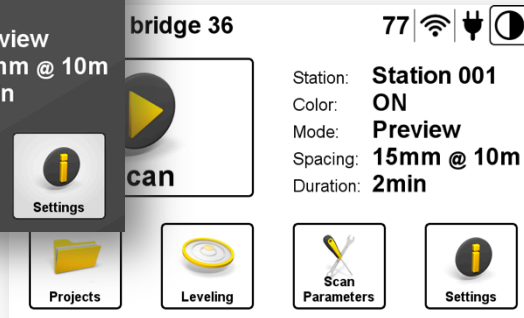
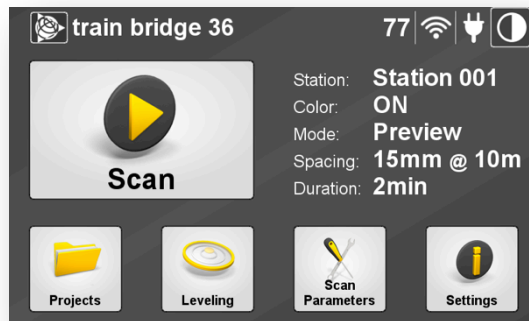
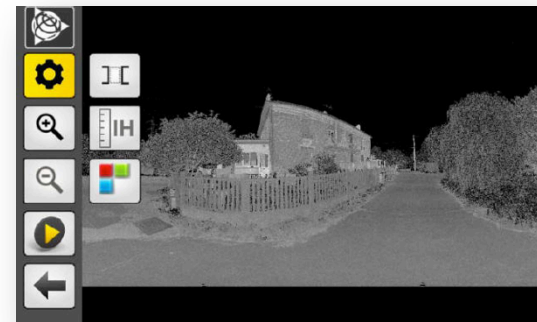
Leading in MEP design



Duidelijke en simpele bediening



- Intuïtief en gemakkelijk aan te leren
- Snel starten met scannen
- Hoog contrast voor moeilijke omstandigheden
Zwarte en reflecterende materialen



Leading in MEP design

Prestaties Trimble TX 6 en TX 8

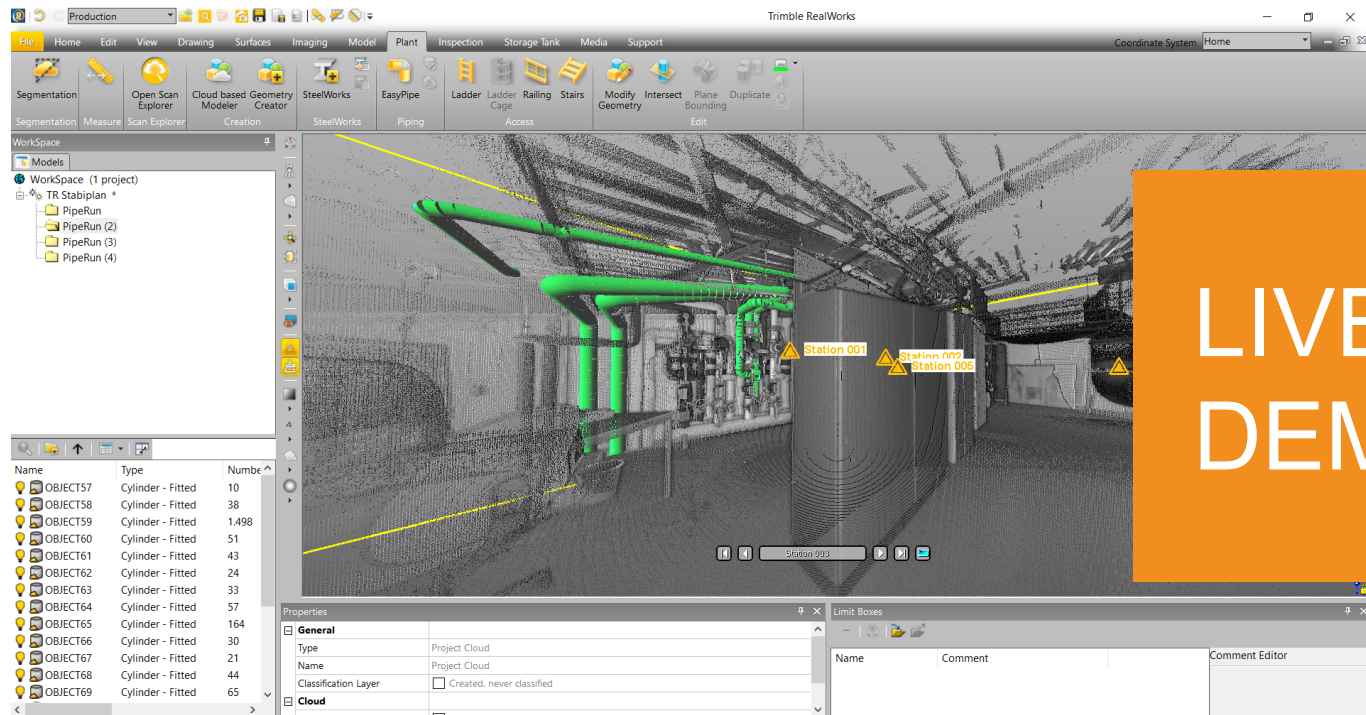


Trimble TX6	Trimble TX8
Scan snelheid = 500,000 punten/seconde	Scan snelheid = 1 miljoen punten/seconde
Bereik = 80m Standaard en 120m Extended	Bereik = 120m Standaard en 340m Extended
Hoge precisie scan modes	Ultra hoge precisie scan modes
Level 2 – (11.3mm @ 30m) 5 minuten	Level 2 – (11.3mm @ 30m) 3 minuten

Leading in MEP design



Scan naar REALWORKS



LIVE
DEMO

Leading in MEP design



Digitaal uitzetten – Total Station



Leading in MEP design



Waarom digitaal gaan uitzetten?



- Hoge kosten voor arbeid in werkvoorbereiding en uitvoering
- Hoge kosten voor dubbel werk
- Architectonische uitdagingen
- Druk om planningen op tijd af te ronden
- BIM naar de bouwplaats
- Eis om binnen bepaalde marges te installeren



Leading in MEP design





Leading in MEP design



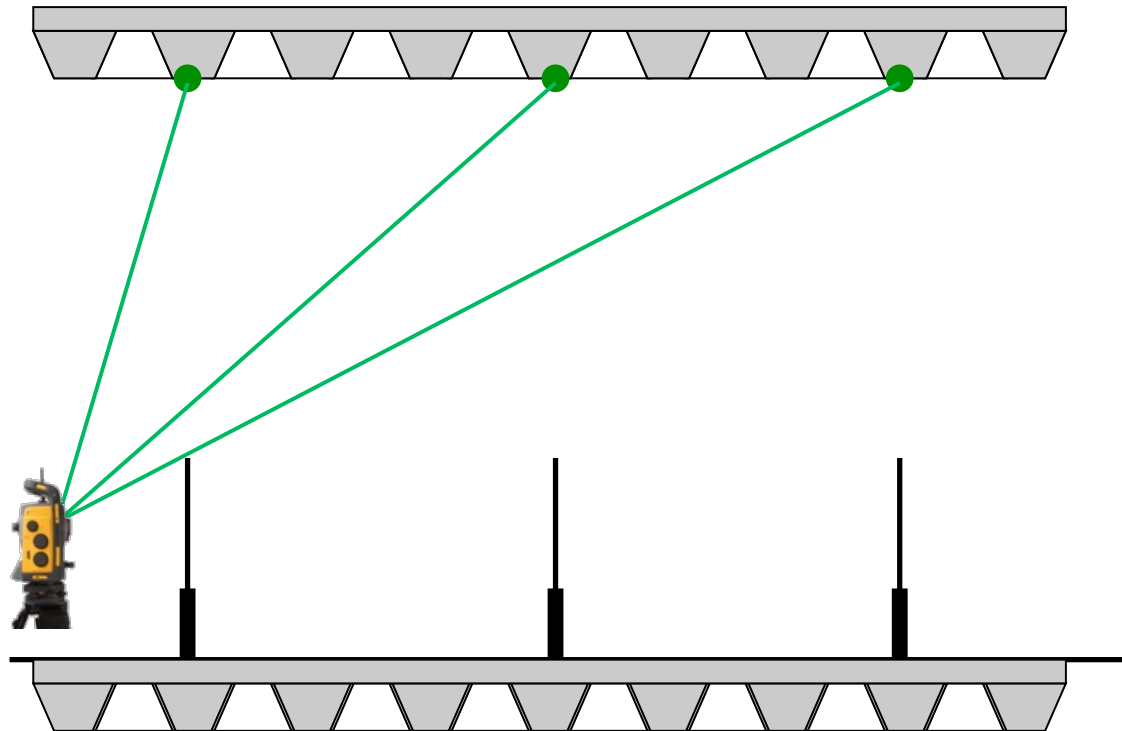
Bouwplaatsproof design Tablet



Leading in MEP design



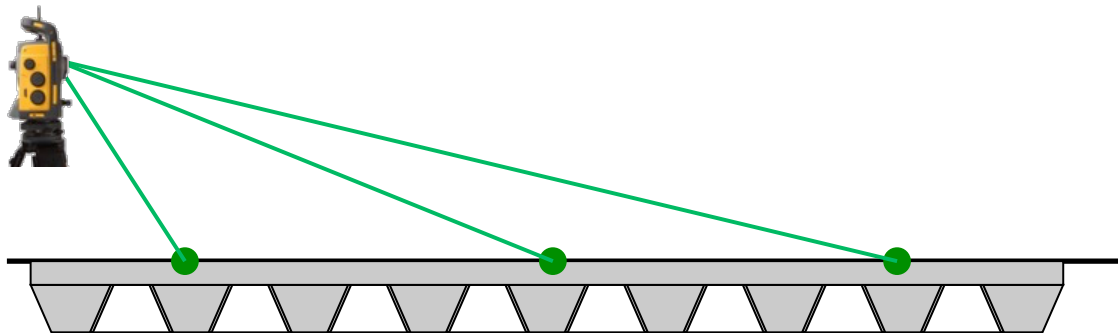
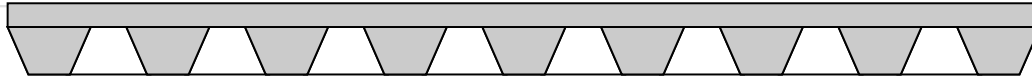
Laserprojectie op plafond



Leading in MEP design



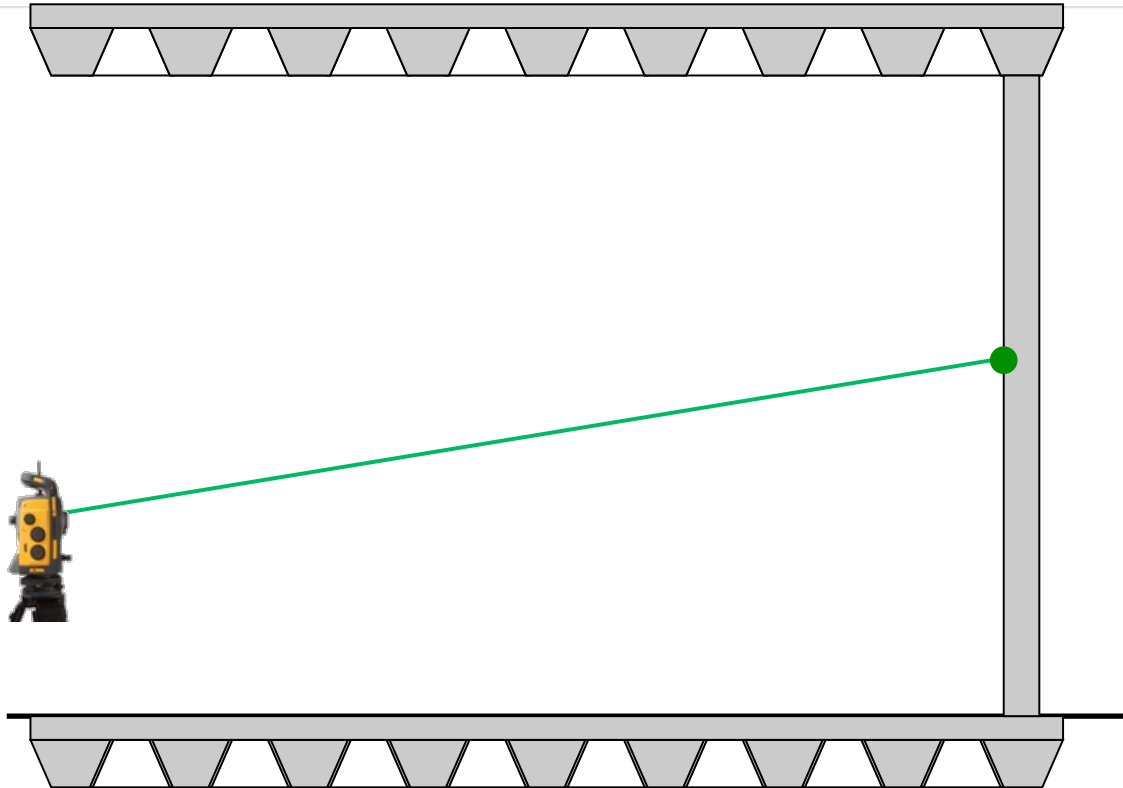
Laserprojectie op vloer



Leading in MEP design



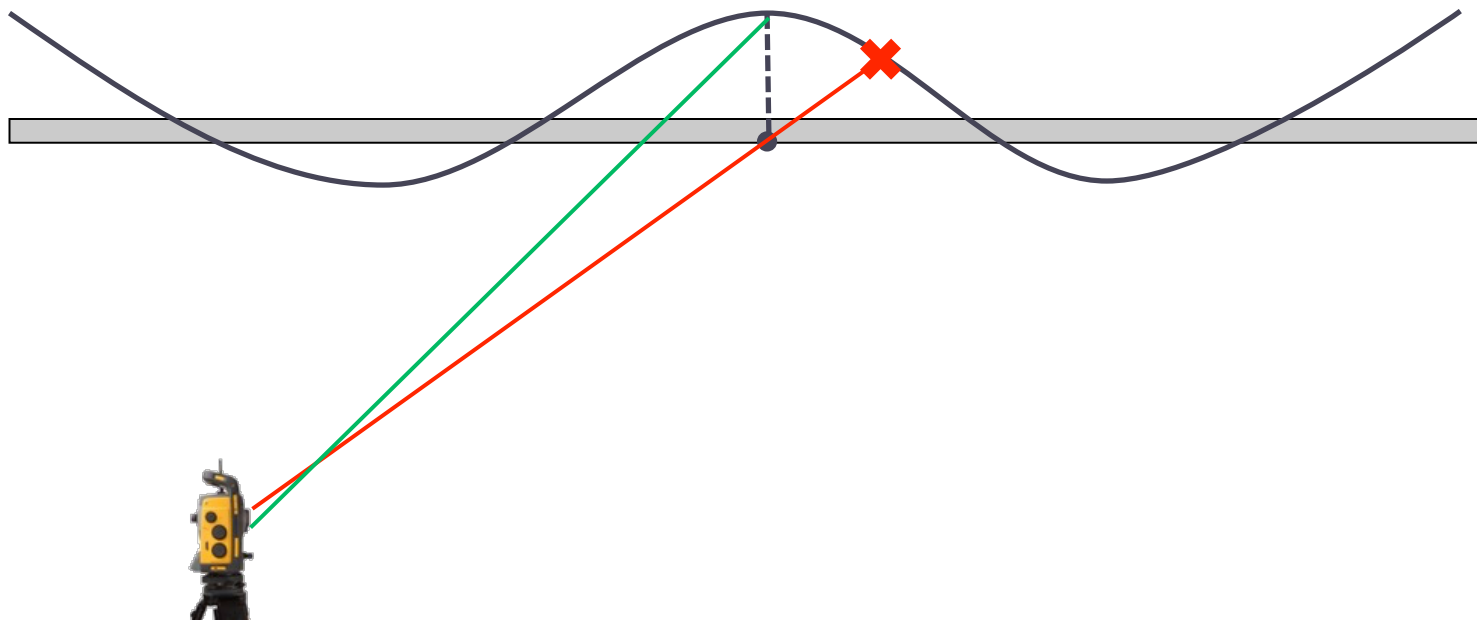
Laserprojectie op wand



Leading in MEP design



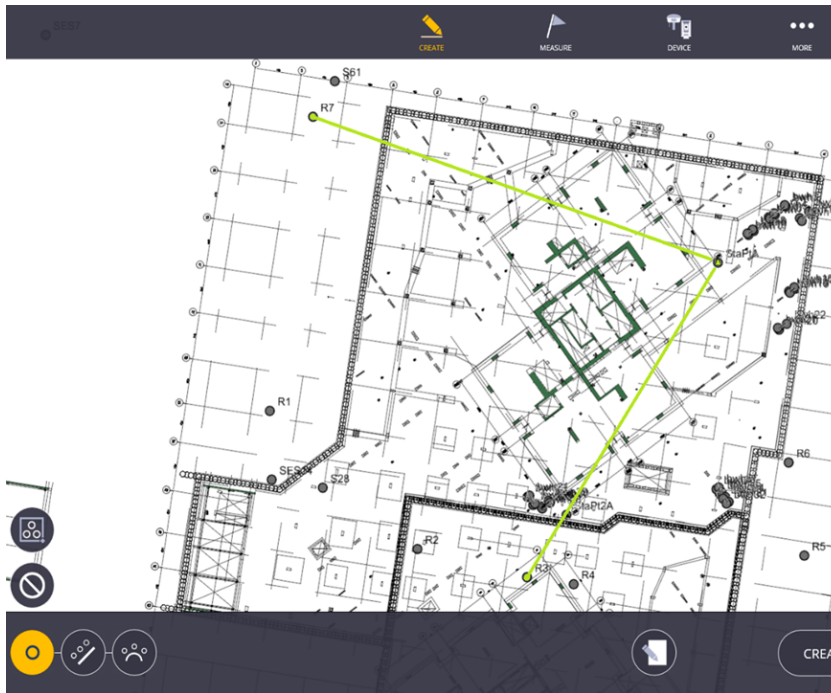
Zelfcorrigerende laser technologie



Leading in MEP design



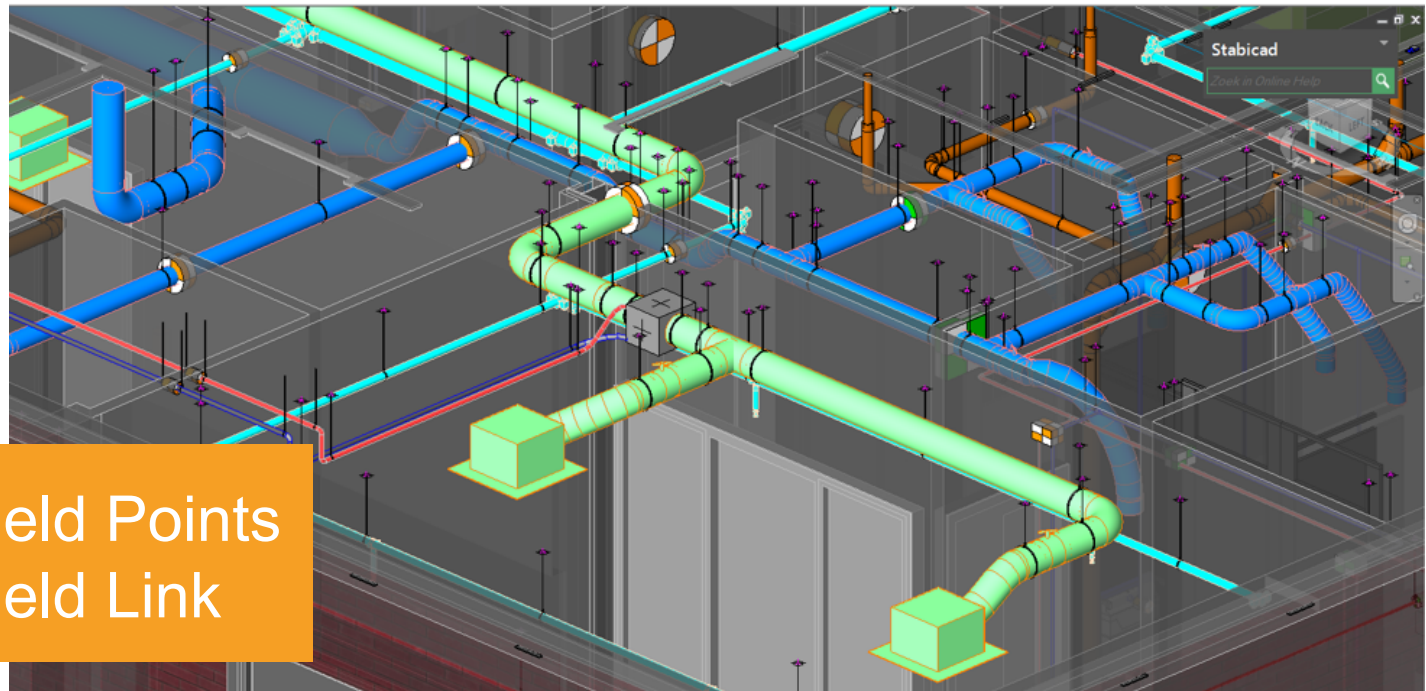
Positiebepaling



Leading in MEP design

 #bimlive

Unieke MEP software



Trimble Field Points
Trimble Field Link

Leading in MEP design





LIVE
DEMO

Leading in MEP design

 #bimlive

Producten

RTS873

Groene laser na rood

Range: 150 meter

Handmatig nivelleren

Radioverbinding

Actieve Prisma



RPT 600

Groene laser

Range: 50 meter

Automatisch nivelleren

WIFI verbinding

Passieve Prisma



Voorbeeld



286 punten uitgezet
3 uur 46 minuten uitzet tijd
Gem. 76 punten per uur
273 punten binnen 2mm afwijking
13 punten binnen 3mm
Handmatig – 1 week

Leading in MEP design





BIM naar de werf
Dank voor uw interesse

Leading in MEP design



Vragen?



Leading in MEP design

