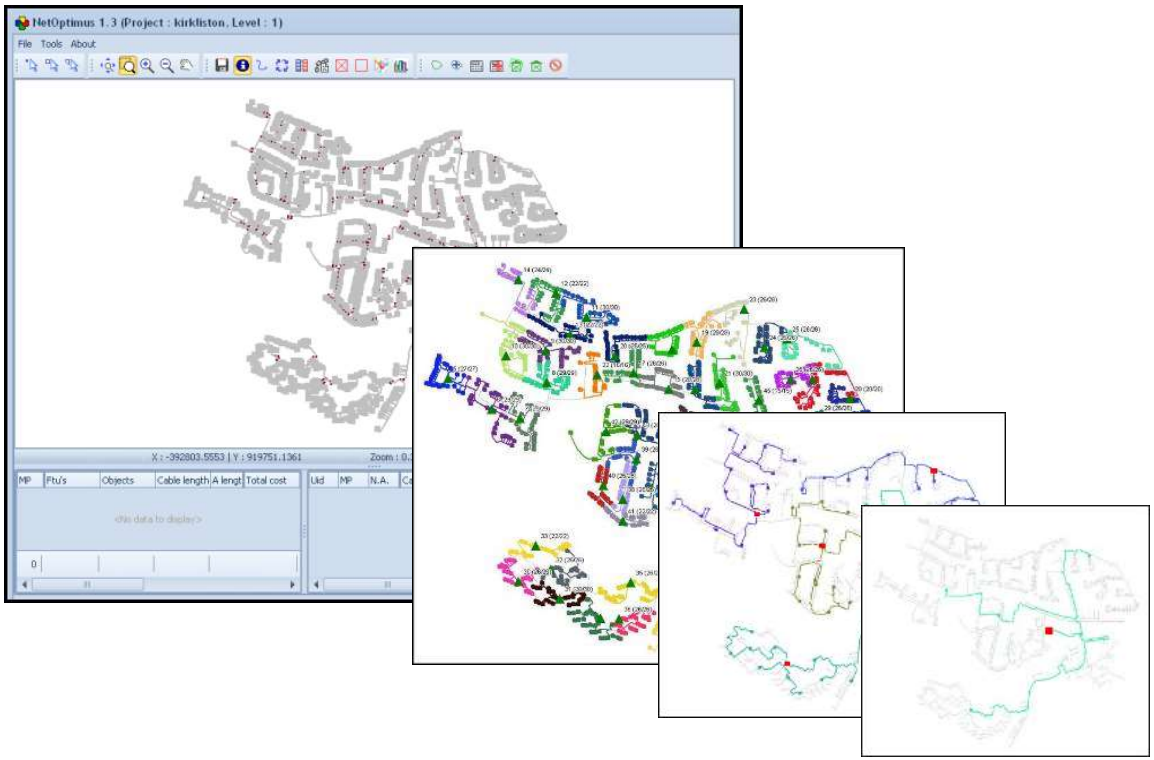
NetOptimus™: automatic cost optimized FTTH / FTTX network design.
Complex optimization algorithms, in a simple to use graphical tool.
More info: www.itsimplicity.nl

NetOptimus

Automatic cost optimized FTTH / FTTX network design.

Complex optimization algorithms, in a simple to use graphical tool.



NetOptimus

FTTH / FTTX network engineering for **1000 homes**:

Manual engineering versus Automatic with NetOptimus

10.000 less

16 hours <1 hour improved network design

1000+ calculations 10.000.000+ calculations

Savings, a calculation example for 1000 homes:

Improved grouping homes

Best DP positioning

↓ 20% less drop cable

↓ 2% less distribution cable

Improved routing

↓ 2% less trenching costs

Design procedure (1000 homes)

Survey

1: Input

1

Data preparation

Building properties: 1½ hour / 1 minute(import)

Possible trails/lines: 1 ½ hour

2: Design

2

Network design for 1000 homes

By an experienced FTTH / FTTX engineer

Manual	Automatic with NetOptimus
Number of designs: 1	Number of designs : >100
Required time: 2 days	Required time : 45 minutes
Estimations: 1000+	Calculations: millions

3: Output

3

Network blueprint

The design process starts with the area map

1

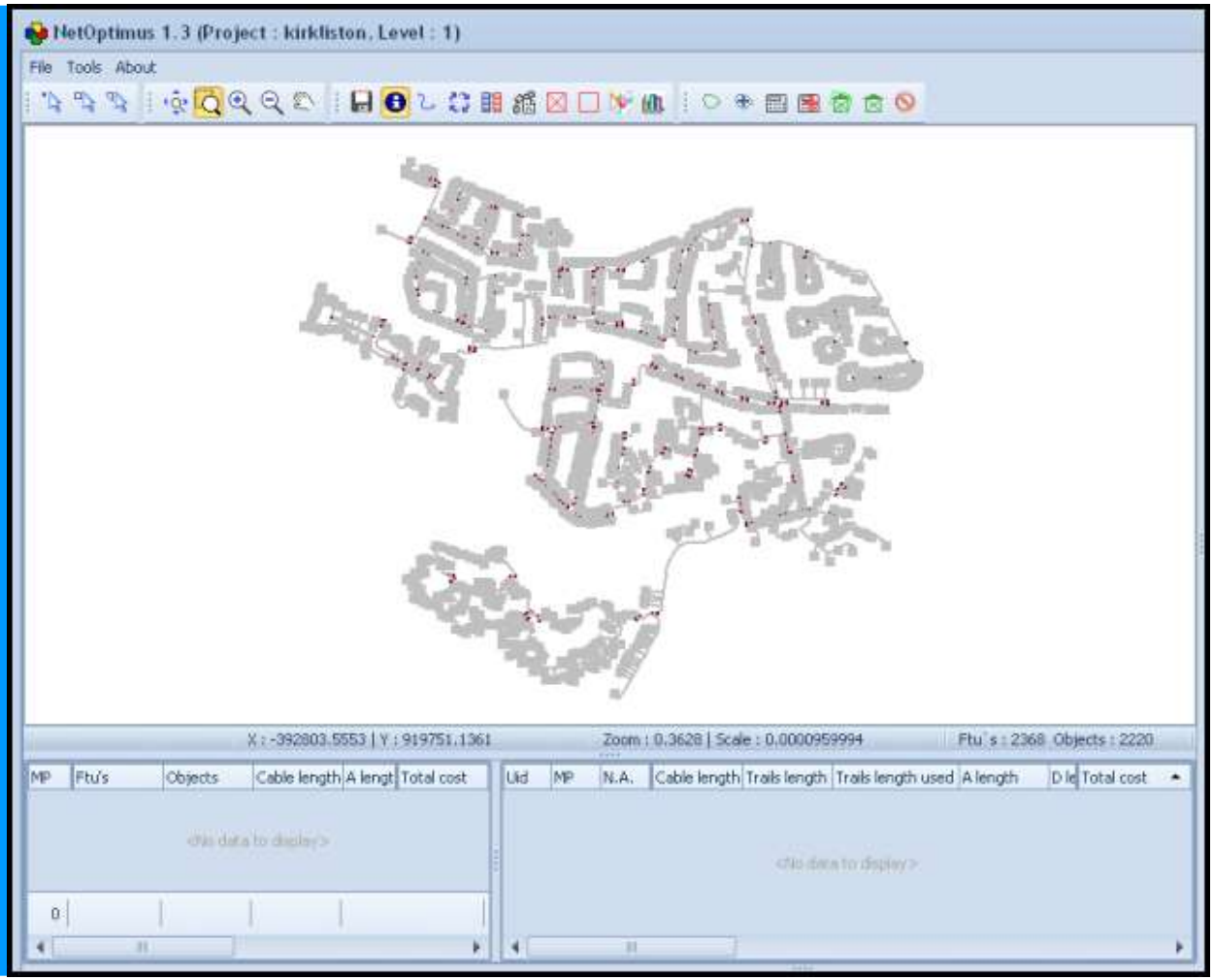
Insertion of the buildings and trails

1

Automatically made (green) garden trails

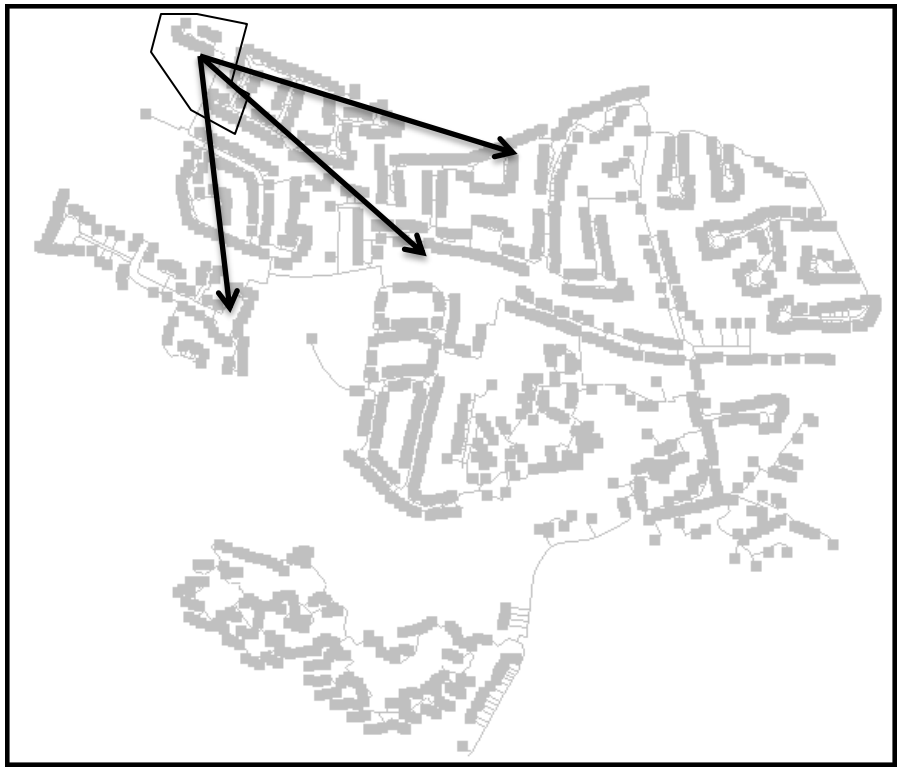
View of the building properties and trails

2



Manual engineering

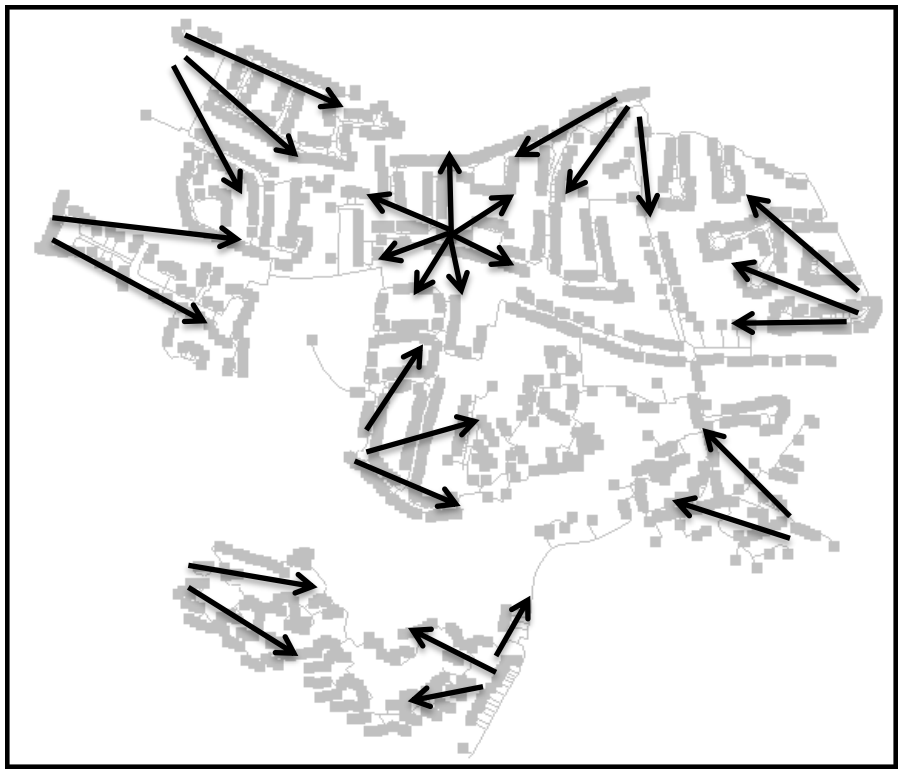
1 design, based on 1 starting point



Based on the logical grouping of the remaining homes

NetOptimus

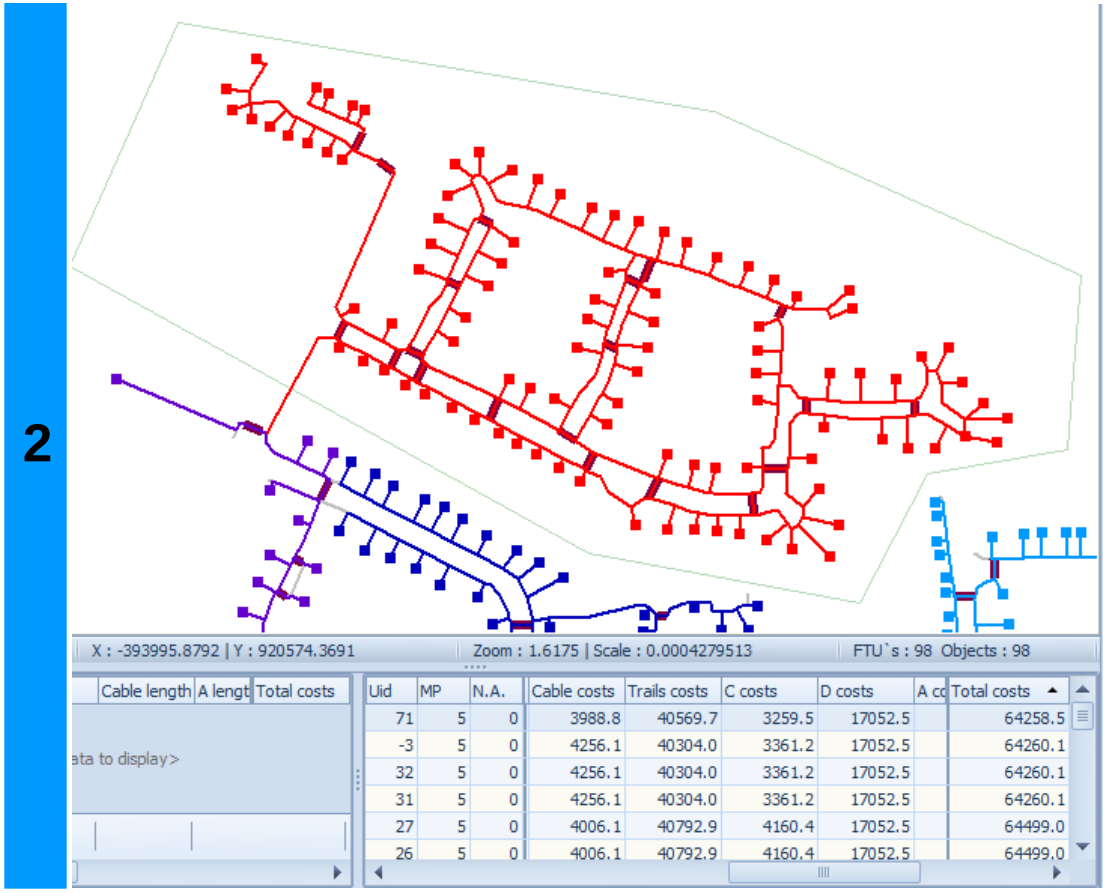
All designs, all starting points



Based on installation and material costs

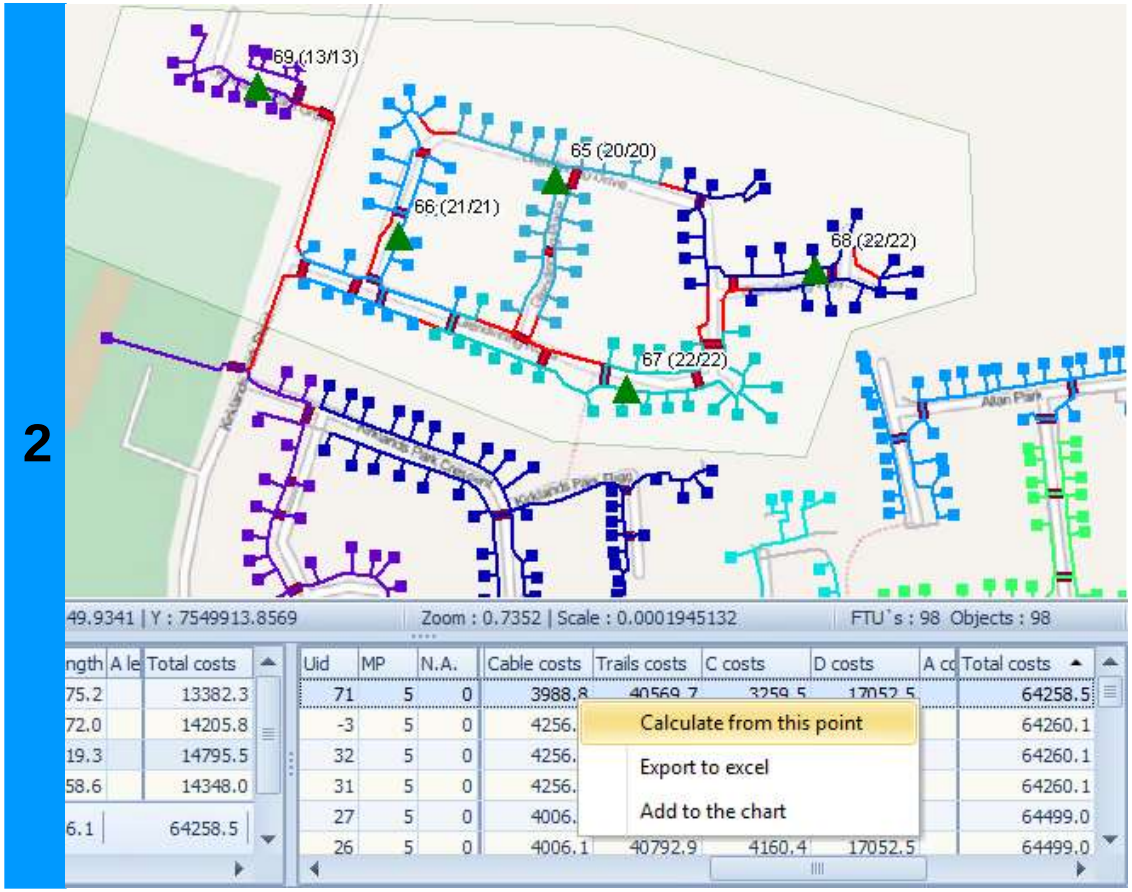
NetOptimus

Lists all alternative designs with their installation & material costs.



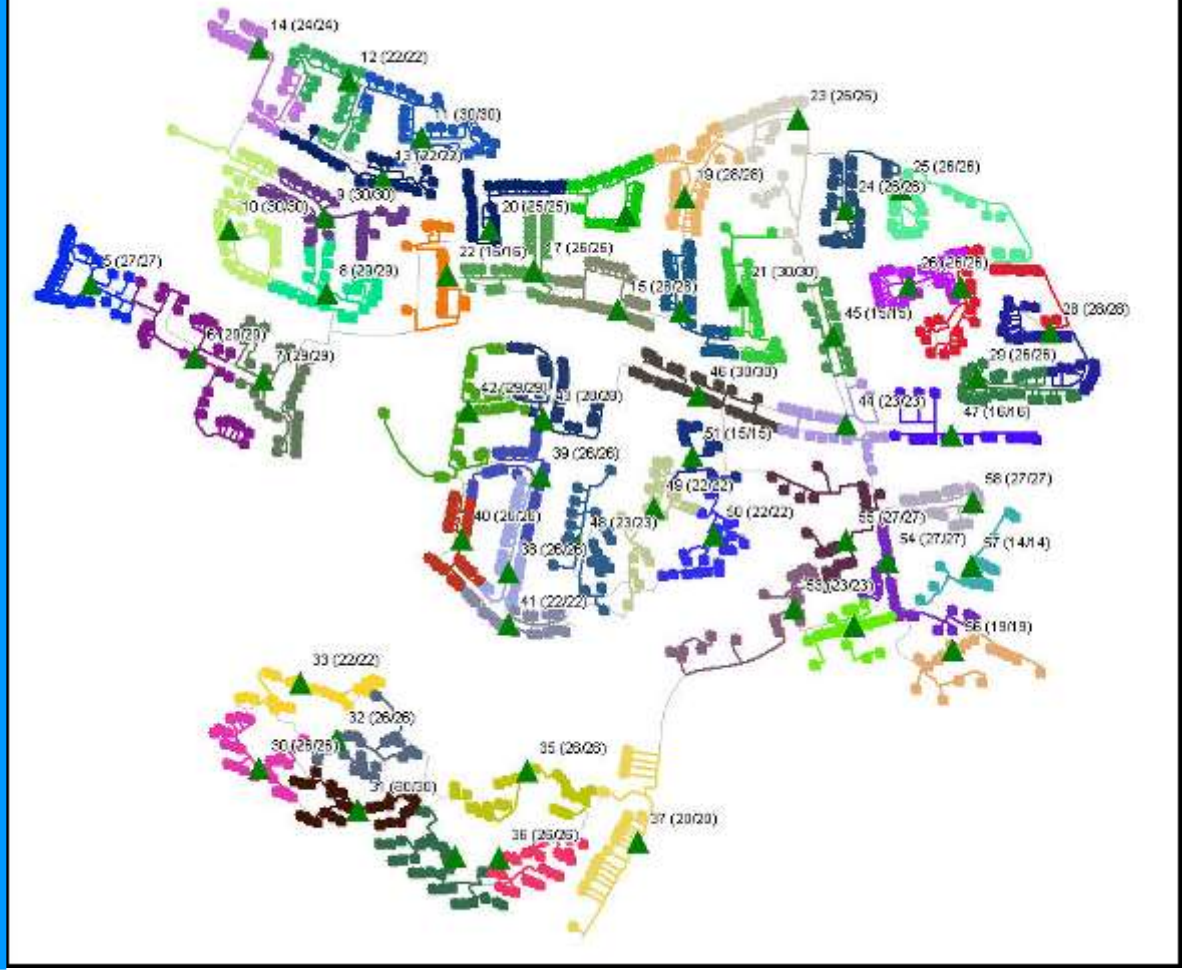
NetOptimus

By simply selecting a solution from the list the design is shown.

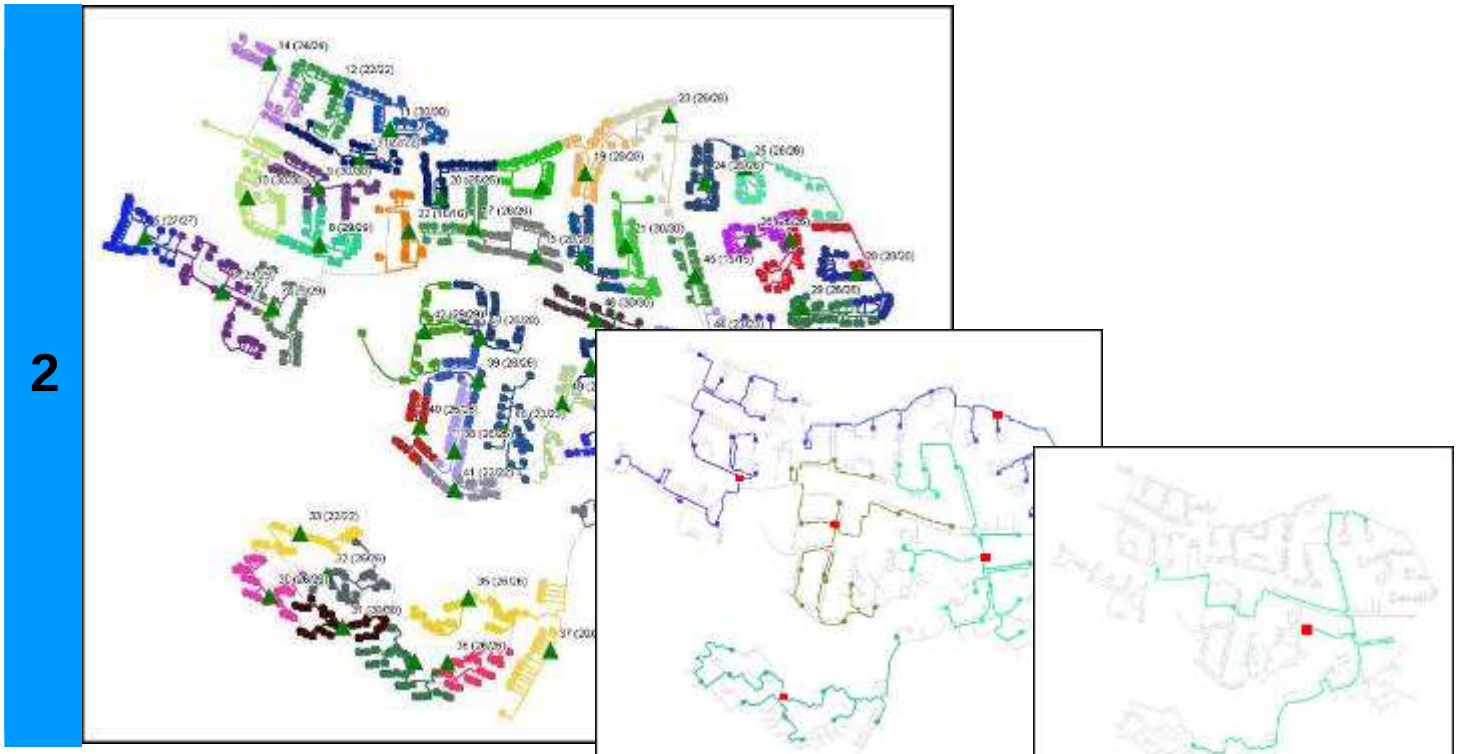


The automatically made design

2



Multiple levels and network concepts



DP areas

Building⇔DP

Distribution net

DP⇔Cabinet

Feeder cables

Cabinet⇔POP

The automatically made design viewed in Autocad

Input

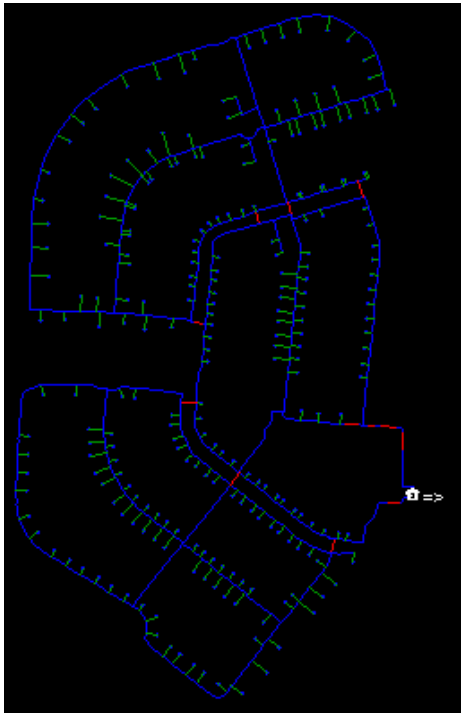
1

Output

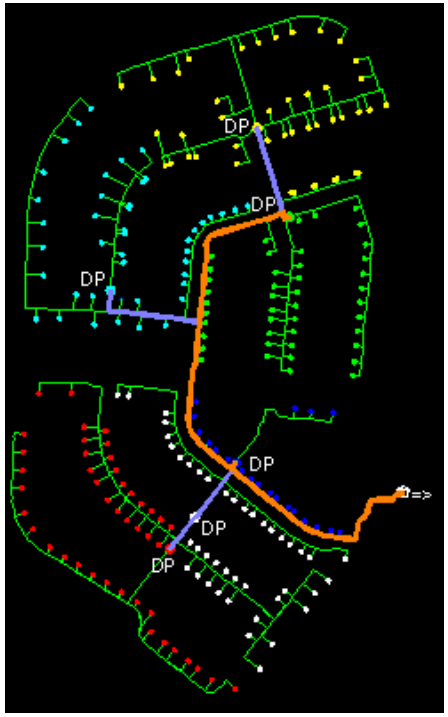
3

Manual ⇔ Automatic

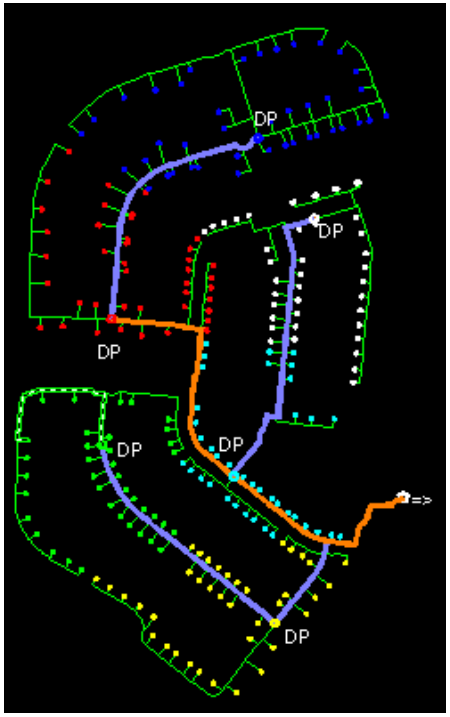
Possible trails



Manual



NetOptimus



	Material €/m	Labour €/m	Manual – NetOptimus = m	%	€
Main trench		20	104.5	3.7	2090
Road crossing		50	-21.7	-60.3	-1085
Drop cable	0.3	0.5	2603.2	11.8	2083
Distribution cable	1.8	0.4	-83.9	-4.6	-185
Microduct 2-way	1	1	-457.4	-211.7	-915
Microduct 7-way	2.8	1	64.1	15.6	244

Savings:

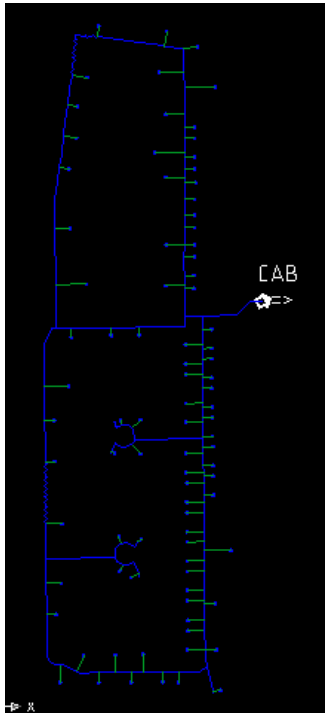
€ 2232

(238 homes)

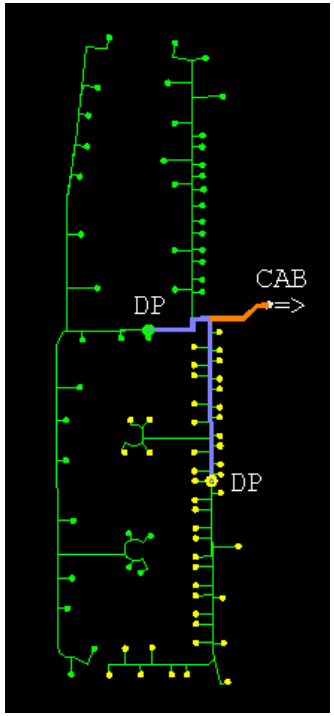
€ 9,38 / home

Manual ⇔ Automatic

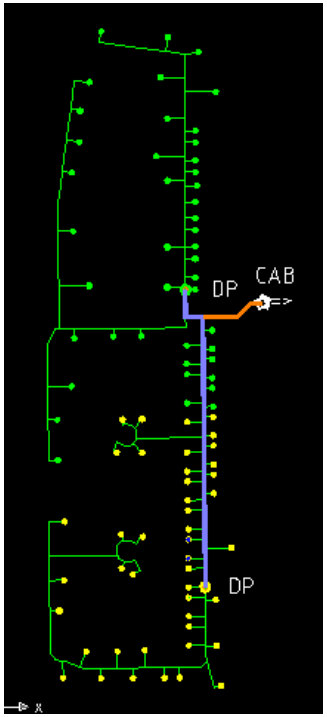
Possible trails



Manual



NetOptimus



	Material	Labour	Manual – NetOptimus =		
	€/m	€/m	m	%	€
Main trench		20	19.6	1.7	392
Drop cable	0.3	0.5	818.9	8.6	655
Distribution cable	1.8	0.4	-45.5	-21.1	-100
Microduct 2-way	1	1	-45.4	-32.4	-91
Microduct 7-way	2.8	1	0	0	0

Savings:

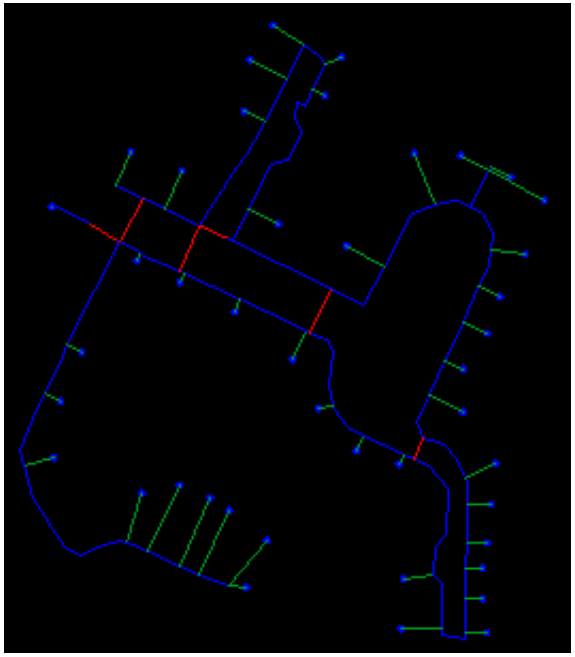
€ 856

(88 homes)

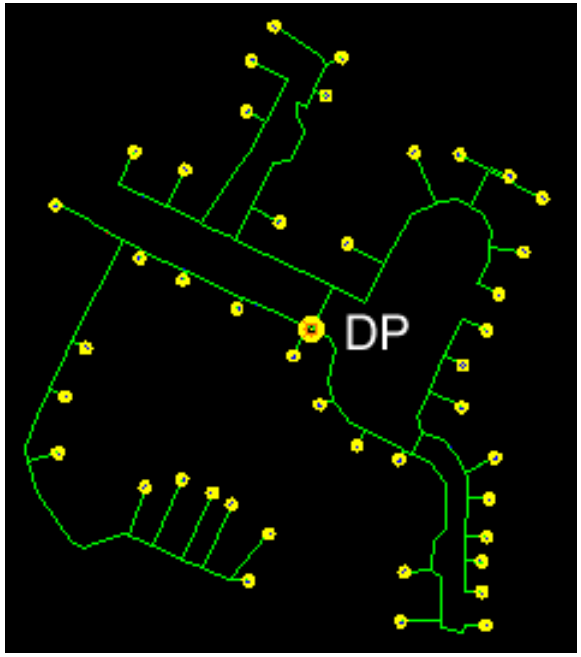
€ 9,70 / home

Shortest cable routes ⇔ NetOptimus

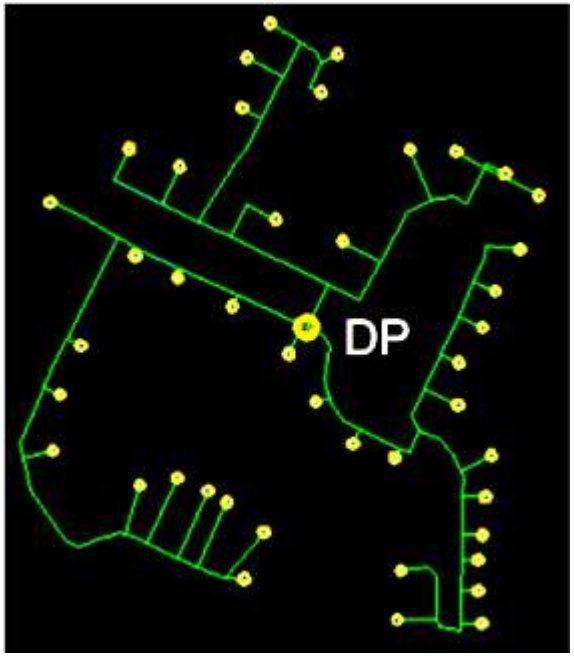
Possible trails



Shortest cable routes



NetOptimus



+ 3.8% cable meters

- 4.3% main trench meters

10% savings or € 9 / Home

NetOptimus

Automatic FTTH / FTTx Network design and cost optimization.

NetOptimus uses smart Algorithm’s to swiftly create multiple alternative network designs.

Easy input of the material and labour unit costs per project.

Best, cheapest, grouping of FTU’s, network routes/trails and central positions.

The engineer can simply **overrule** the system and favor/block certain trails and favor certain (already known) manipulation point positions.

Multiple level design: Distribution network; Feeder network etc.

NetOptimus CAD tools:

NetOptimus comes with CAD tools for automatically processing the required input data and for the processing of the NetOptimus data into detailed CAD designs.

NetOptimus CAD tools:

Import of building properties.

Line trace functions for possible trails creation.

Automatic garden trail creation, building⇔main trail connection.

Automatic line segmenting at line intersections.

Line connection checks.

Line overlay and crossing checks.

Building connection check.

Automatic coordinate corrections.

Export data to NetOptimus.

Import data from NetOptimus.

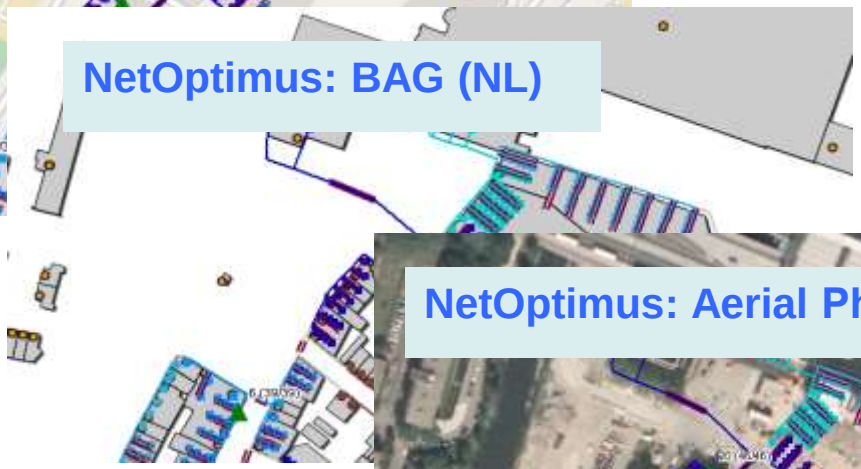
Automatic creation of cables and manipulation points.

Visualization options

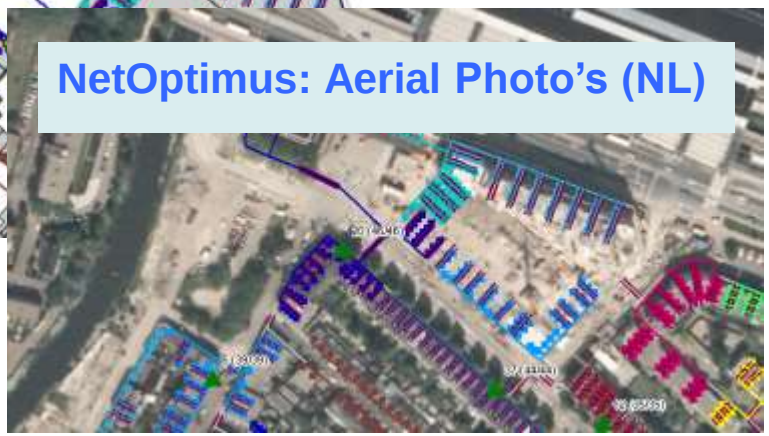
NetOptimus: Design mode

NetOptimus: OpenStreetMap

NetOptimus: BAG (NL)

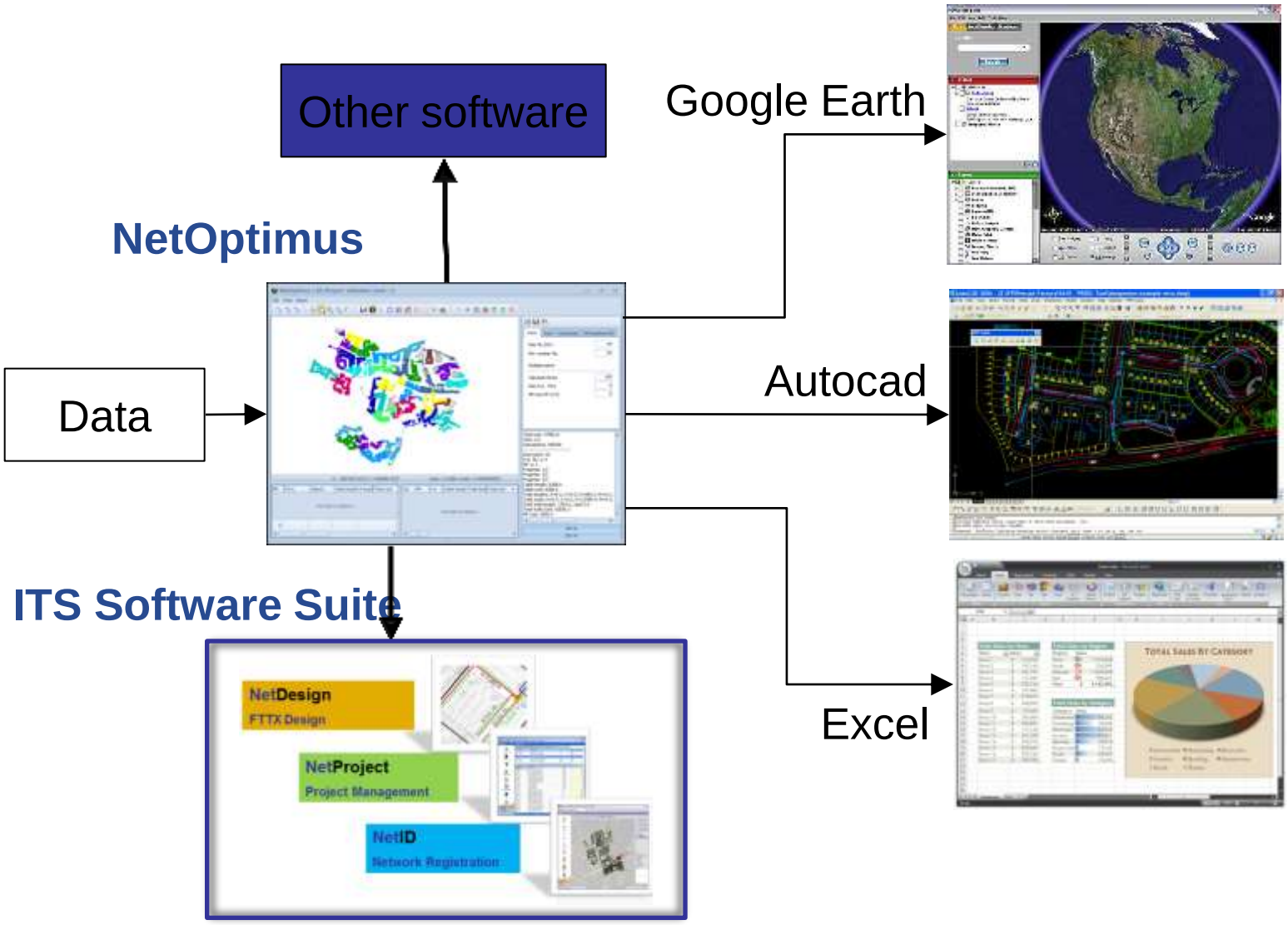


NetOptimus: Aerial Photo’s (NL)



Visualization options

NetOptimus output



The ITS Software Suite

Design *Build* *Operate & Maintain*

NetDesign

FTTH / FTTX Design

Design of complete FTTH / FTTX-networks

►*AutoCAD® based and creation of all required drawings.*

NetProject

Project Management

Simplifies building of complex networks

► *Managing of all labour, quantities & costs.*

NetID

Network Registration

Registration & Documentation

►*Creation of fiber connections / jointing reports. Integrated GIS.*

ITS Software Suite

Design, Build, Document

Some references

Africa:	Ghana; Mali; Rwanda; Tanzania; Zimbabwe
Asia:	Kazakhstan; Sri Lanka; Vietnam
Caribbean:	Curacao
Europe:	Denmark; England; Germany; Netherlands; Norway; Scotland; Sweden; Switzerland
Middle East	Qatar

ITS Software Suite

Design, Build, Document

Reference details for the Netherlands.

Mayor contractors in the Netherlands work daily with the ITS Software Suite to engineer and install FTTX networks.

Amount of homes engineered with the ITS Software Suite in the Netherlands:

Year	Homes
2008	15.000
2009	40.000
2010	50.000
2011	70.000
2012	120.000
2013	200.000
	495.000

Most projects include a mix of low -and high-rise buildings

Reference details for the Netherlands.

Who are we?

We are a team of specialists with a vast experience in Telecom, network engineering, project management and IT.

In the past 20 years we made software for Telecom projects.

With our software networks for many millions of homes were designed and installed.

January 2013: we did a management buy-out and acquired all software rights and activities of Draka / Prysmian Group’s Software department.

NetOptimus™

Automatic cost optimized FTTH / FTTX network design.

Thank you!

More info: www.itsimplicity.nl