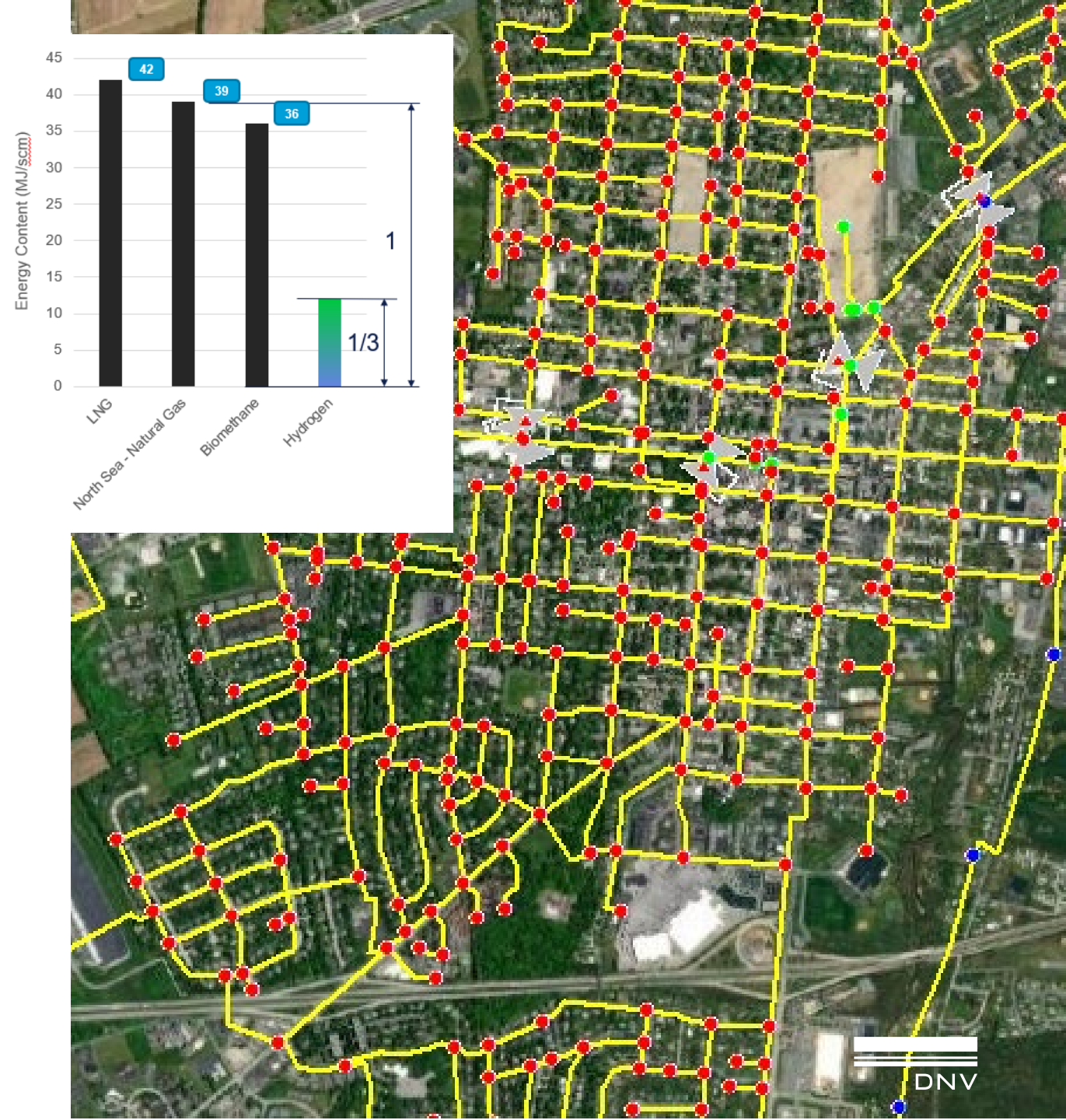


Automating key network analysis functions

2 Real life Cases

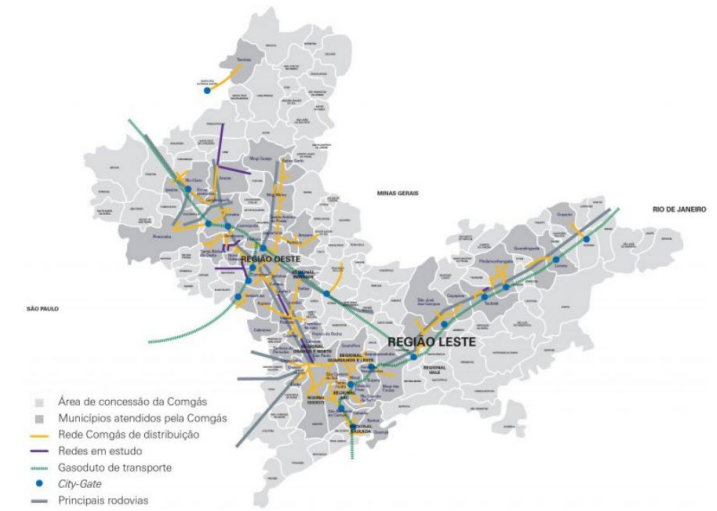
Problem Being solved

- Energy transition is bringing new gases into networks – H2, biomethane and methane blends
- New gases make networks more complex – multiple smaller supplies
- Operators need to understand how these new gases will effect their customers – new usage patterns
- Need to run fast and accurate analysis with reliable models
- Need to react to fast changing networks and operating conditions



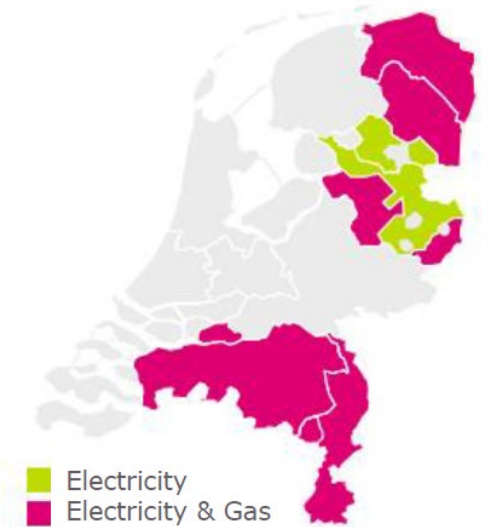
Comgas Background

- Brazil's largest gas distributor with 1.7 million customers and over 16,000 km of pipeline
- Network broken into 3 main models, operated and analysed separately
- Networks constantly expanding
- Modellers spending huge amounts of time correcting GIS errors, updating assignment data and other model errors
- Resultant models not accurately reflecting true network – made decision making difficult
- Wanted to implement a new Gas Management System as part of a digitisation project
 - Improve operations management and efficiency
 - Improve responsiveness to changes in both supply and demand



Enexis background

- One of the largest network operators in the Netherlands with over 46,000km of pipelines and 2.3 million customers
- Network updated annually so didn't always reflect actual network
- New usage patterns for customers due to WFH, gas price rises, more efficient equipment
- Energy transition would introduce H2, biomethane and methane blends into the network
- Enexis needed to be able to update their models rapidly and accurately to reflect the changes to inputs and deliveries

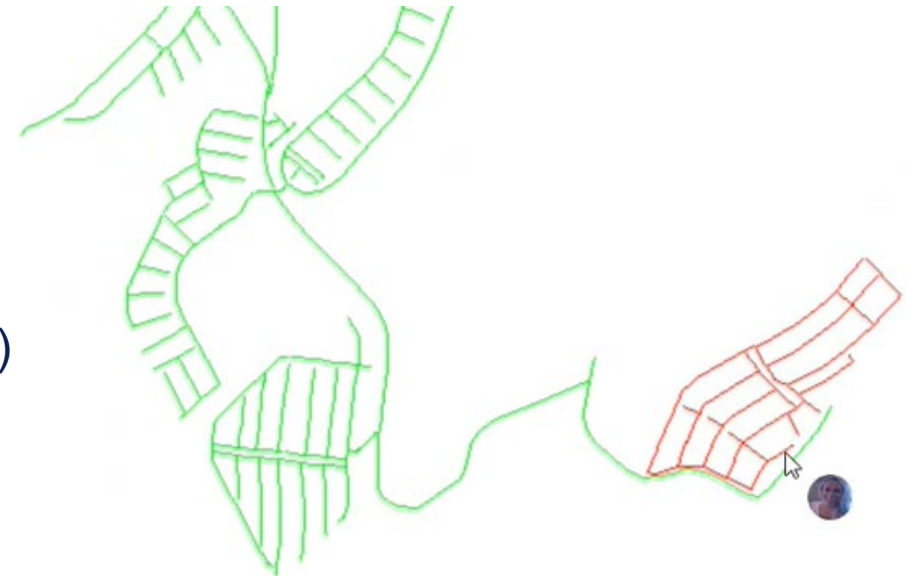


Energy transition brings changes to grid

"The market is changing very fast and so are customer usage patterns," says Simon Adriaensen, Grid Architect and one of the primary users of Synergi Gas at Enexis.

The Solution

- Automation of the model build process
 - GIS data converted automatically
 - Demands allocated automatically
 - Resulting models checked for errors (connectivity, pressure, flow)
 - Errors isolated to allow models to run
- Results
 - Model can be solved
 - Errors are:
 - Highlighted visually on a map
 - In a table in the log



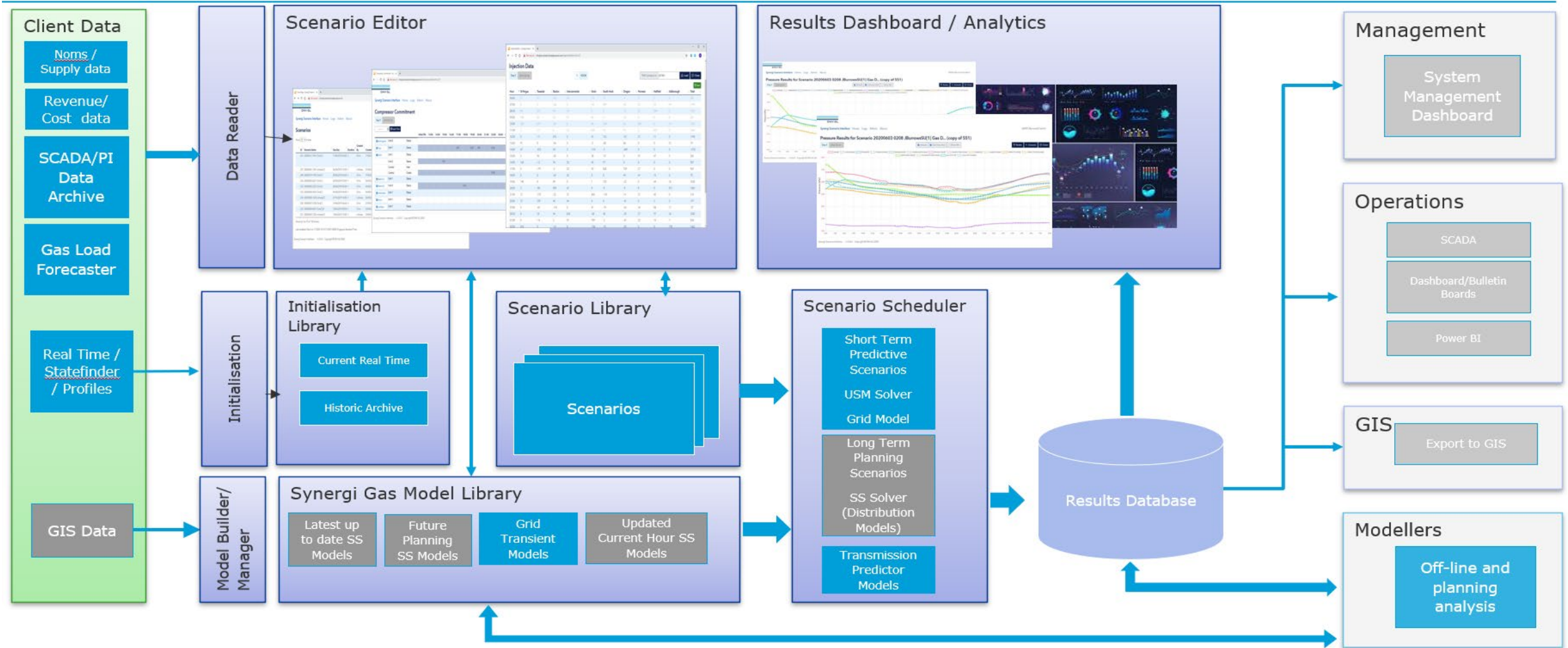
Generated Model: Area3_ALL_2021_12_19_020416.mdb

Status: Warnings

Show entries

Activity	Time	Level	Message
Build	2021/12/19 01:59:30	INFO	Starting Model Build
Build	2021/12/19 01:59:30	INFO	Building scripts and config
Build	2021/12/19 01:59:30	INFO	Building configuration file contents..
Build	2021/12/19 01:59:30	INFO	Saving file: D:\Demo\AMB\Config_Files\Config-Area3.conf.ini

Future Vision



Demo

- Scheduled Model building and error reporting

BUILDS SCHEDULES CONFIG SYSTEM LOG ABOUT

Schedules

Show entries

Search: [Build Selected](#) [+ New Schedule](#)

Select	Name	Base	Last Build	Scheduled Build
<input type="checkbox"/>	Area 1 (Sunday)	Area1	29/03/2022 14:59	✓ Weekly [Sun, 00:00]
<input type="checkbox"/>	Area 1 LP model (Mon)	Area1_LP	11/02/2022 09:59	✓ Weekly [Mon, 01:00]
<input type="checkbox"/>	Area 2	Area2	13/02/2022 01:03	✓ Weekly [Sun, 01:00]
<input type="checkbox"/>	Area 3	Area3	13/02/2022 02:03	✓ Weekly [Sun, 02:00]
<input type="checkbox"/>	Area 4	Area4	13/02/2022 03:03	✓ Weekly [Sun, 03:00]
<input type="checkbox"/>	Area 5	Area5	13/02/2022 04:22	✓ Weekly [Sun, 04:00]
<input type="checkbox"/>	Area1 (Wed)	Area1	30/03/2022 00:03	✓ Weekly [Wed, 00:00]

Showing 1 to 7 of 7 entries

Previous Next

Any Questions?

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