

Live Data For Live Models



WaPUG November 2010

Ian Small



Models Tomorrow

The screenshot shows the Lizard web application interface for flood simulation. The main map displays a flood simulation of the Amsterdam and Haarlem region, with inundated areas highlighted in blue. The interface includes a sidebar with navigation options, a top navigation bar, and a 'Scenario details' panel on the right.

regio: Sloterbinnen en middelveldsepolder

- Zevenhoven en omgeving
- Polders Walemet - Rond Amsterdam
- De lange Bretten
- Flevopark
- Noorder IJ-polder
- Overbraker binnenpolder
- Sloterbinnen en middelveldsepolder
- Polders Walemet - Vechtboezem

doorbraaklocatie: Drechtkade (west)_4469

- AGVboezems
- Rijnland boezem
- Drechtkade (west)_2458
- Drechtkade (west)_4469
- Drechtkade (west)_934
- Drechtkade (west)_6496

scenario: Zonder afsluitlocatie

- Watemet berekeningen
- afsluiting na 3 uur
- Zonder afsluitlocatie

resultaat: anim. waterdiepte overstr. gebied

- anim. stroomsnelh. overstr. gebied
- anim. waterdiepte (f1s_h)
- anim. waterdiepte overstr. gebied
- boezem - debiet
- boezem - stroomsnelh.
- boezem - waterstand
- max. stroomsnelheid overstr. gebied
- max. waterdiepte overstr. gebied

Scenario details

Algemeen	
Scenario naam	Zonder afsluitlocatie
Bres locaties	Drechtkade (west)_4469
Regio	Sloterbinnen en middelveldsepolder
Project	Watemet berekeningen
Metagegevens	
Scenario id	348
Scenario opmerkingen	None
Doorbraken	
Doorbraak Drechtkade (west)_4469	
Naam	Drechtkade (west)_4469
Initiële bresbreedte	10.0

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Read mt0.google.com

Models Today



A Solution

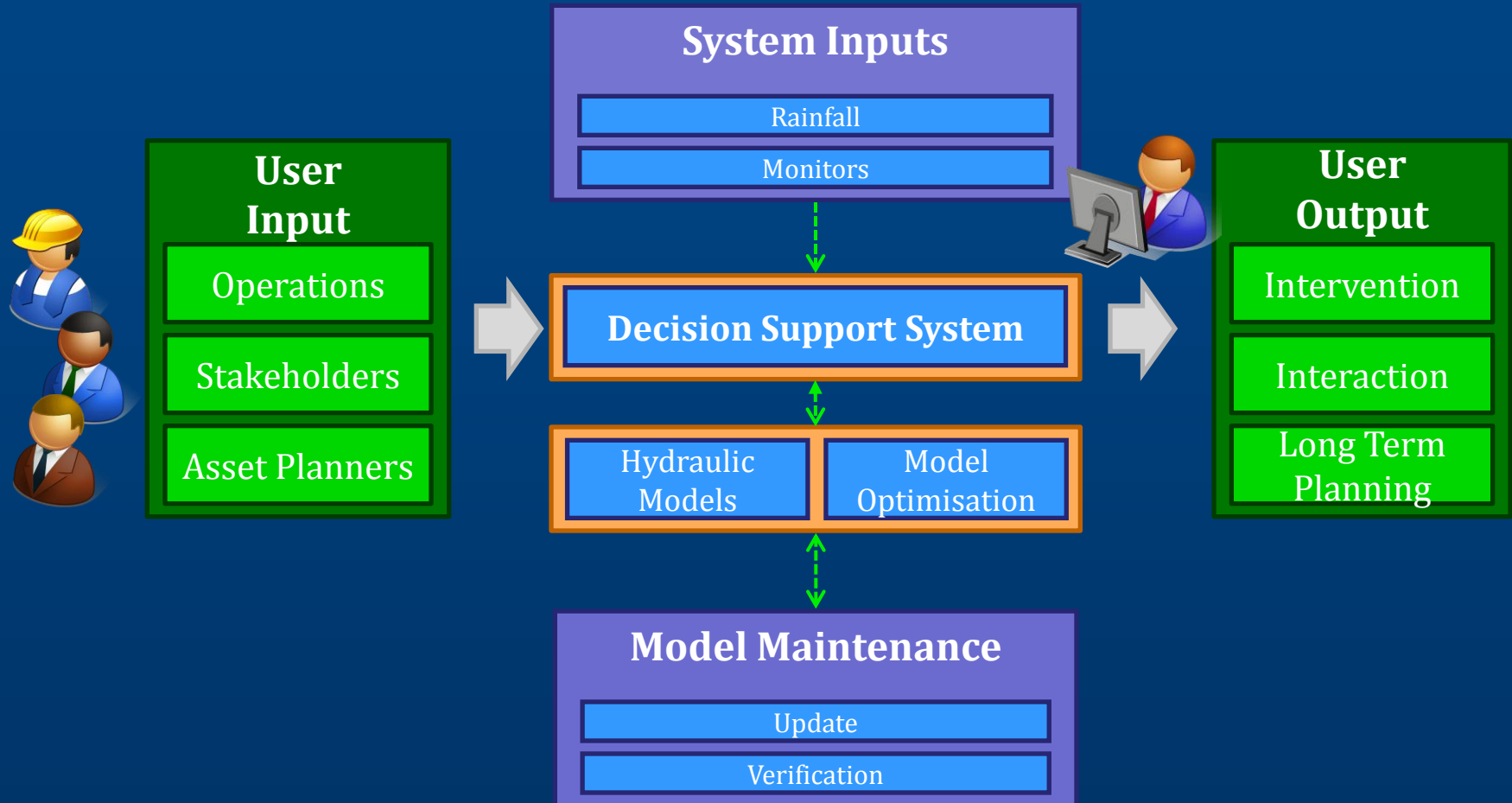
- Models running in and ahead of real time
- Automatic calibration of models
- Optimisation software making real time interventions
- Controlled access by 3rd parties

So how do we do it?

A Solution (cont)



System Schematic



Overall System

Decision Support System

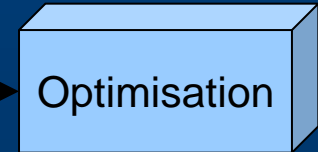
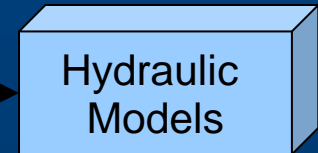
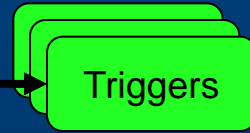
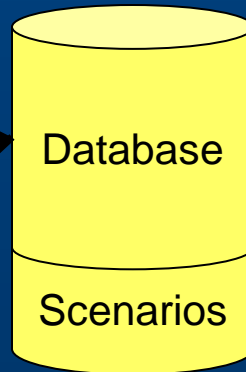
Users



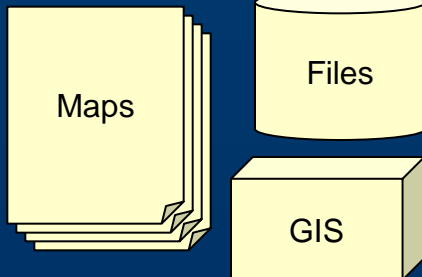
Modeler



- Authorize new scenarios
- Manage data and model



Outputs



Inputs



Decision Support System

Lizard - Mozilla Firefox

Bestand Bewerken Beeld Geschiedenis Bladwijzers Extra Help

http://test.lizardssystem.nl/system/

Lizard

Lizard Web [fews](#) [info](#) [flooding](#) [flow](#) Anne | [help](#) | [instellingen](#) | [Uitloggen](#)

Resultaten [Nieuw scenario](#) [Tabel](#) [Importeren](#) [Exporteren](#) resultaten: alles met resultaten **Doorzicht** 75 [Exporteer](#)

Purmerend Edam Gouwzee Waterland

Google Maps

Klaar

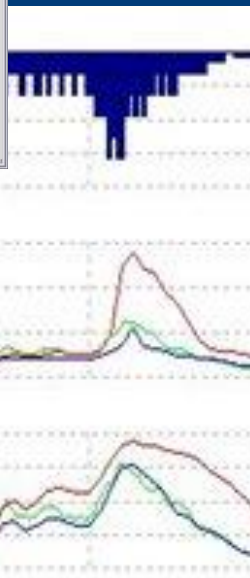
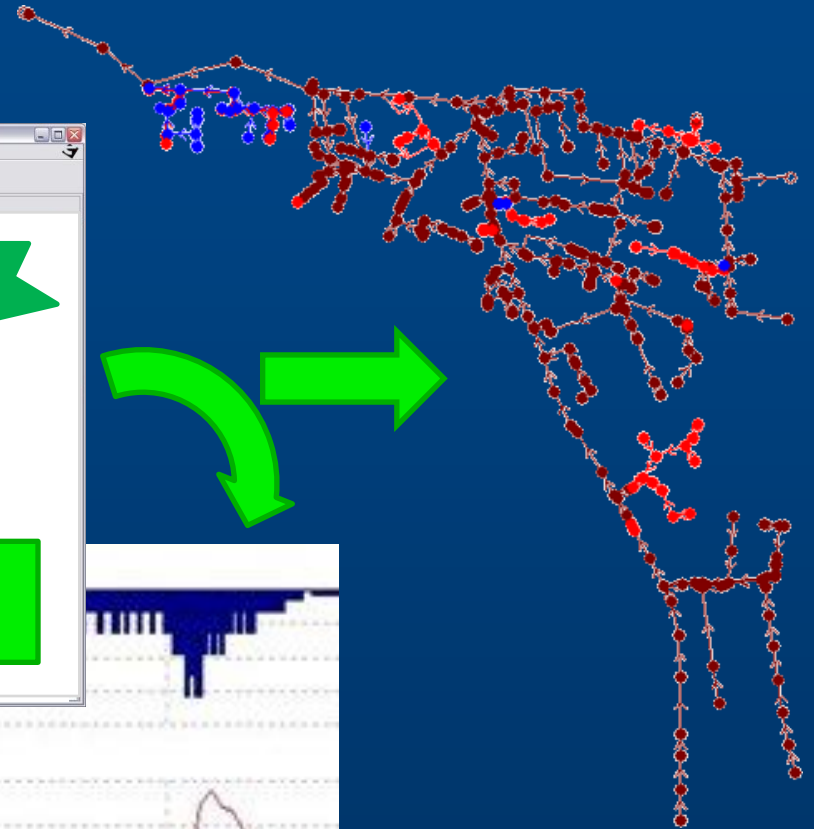
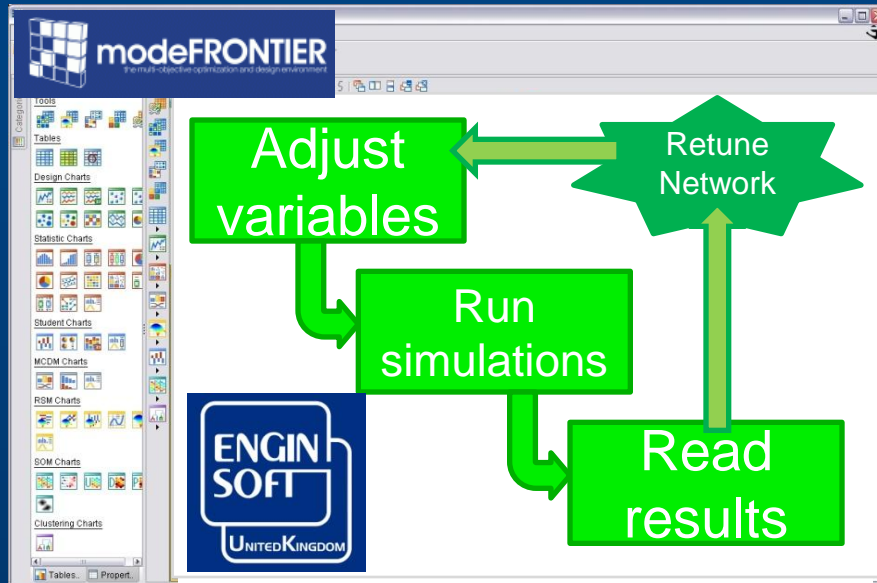


Live Data in Live Models

- ✓ Live rainfall data
- ✓ Live flow data
- ✓ Connecting directly to models

- ✓ Rainfall Predictions
- ✓ Simulated through the model

System Calibration



System Optimisation

BMW Motoren
Giovannini
14.10.2008

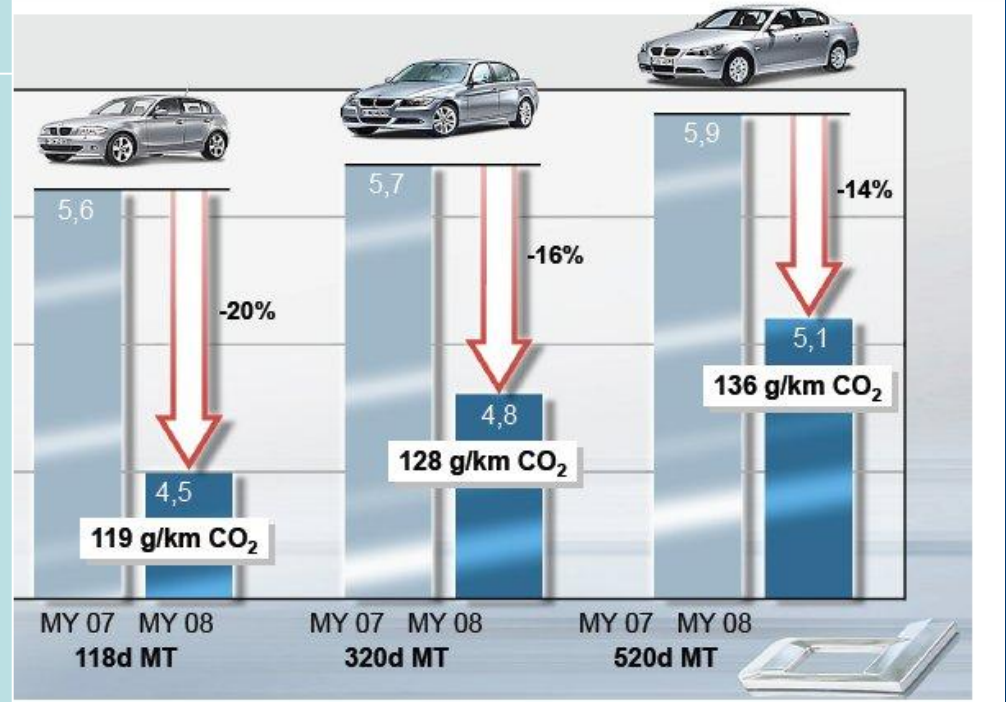
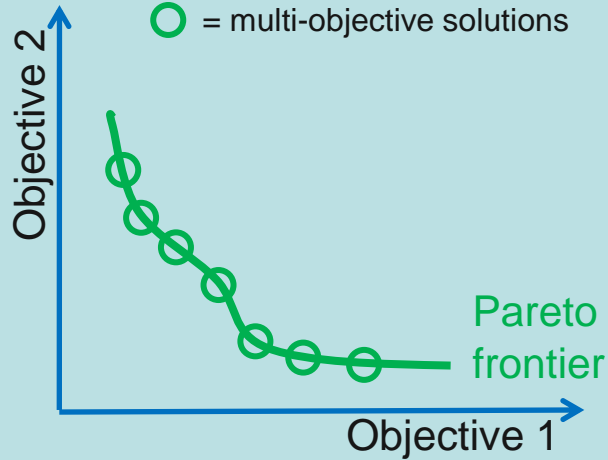
BMW Diesel Engine Development
Conclusion



Multi-Objective Optimisation



○ = multi-objective solutions

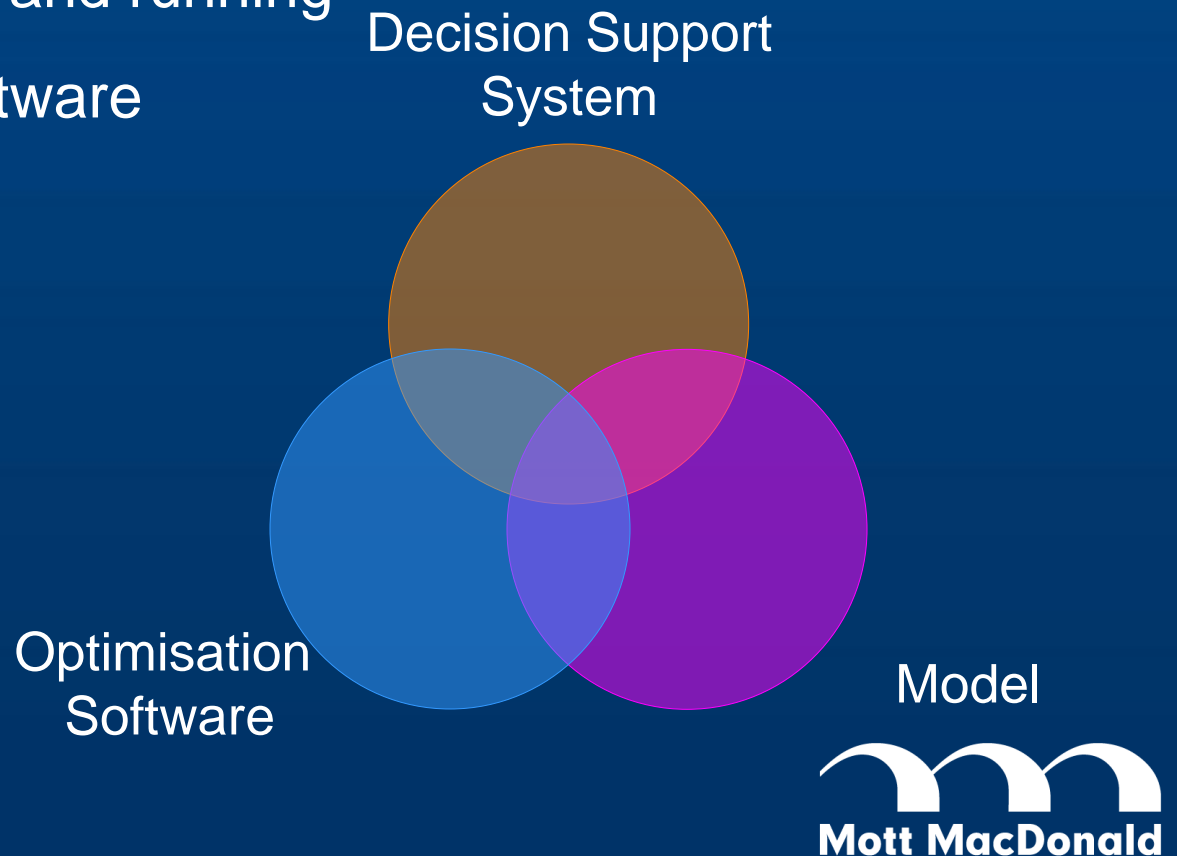


Pilot Study

- To prove parts of the concept
- Thames Water have provided data
 - Large London catchment
 - Long term monitors installed for 2+ years
- Focussing on the optimisation and interfacing potential
- Ties into other Thames Water research into real time modelling

Next Steps\Challenges

- Agree a memo of understanding with partners
- Get the pilot up and running
- Developing Software
- Scope Creep





Mott MacDonald

www.mottmac.com

