

Title

INTWIS



Integrated Water Board Information System
The Dutch solution

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AQUAGIS is een onderdeel van ESRI Nederland

Abstract

The Netherlands is a highly populated small country with a high amount of surface water. Water management often means a very precarious balance between fisheries, recreational activities, nature, and transportation. Water management is done by national and regional Water Control Boards. Management of accurate, reliable, complete, and easily accessible water information was often a problem. This information was often analogous, managed by several departments, incomplete, etc. In 1997 five Water Control Boards collaborated to make a product for management of water information. In 1998 the result was INTWIS, an Integrated Water Control Board Information System. INTWIS is based on ArcGIS 9 with an Oracle database. It consists of a basic module for INTWIS management and, by now, thirteen water management supporting modules. Each of these modules has specific functionality and can be integrated with (inter)national coordinating information systems. By now, sixty-six percent of the Dutch Water Control Boards are using INTWIS.



INTWIS

- INTegral Water Board Information System
- System for registration of all kinds of relevant Water Control Board data
- Both geographic (maps) and administrative data
- Consists of different software components:
 - ArcGIS
 - ArcSDE
 - Oracle
 - Oracle Forms
 - BusinessObjects

INTWIS

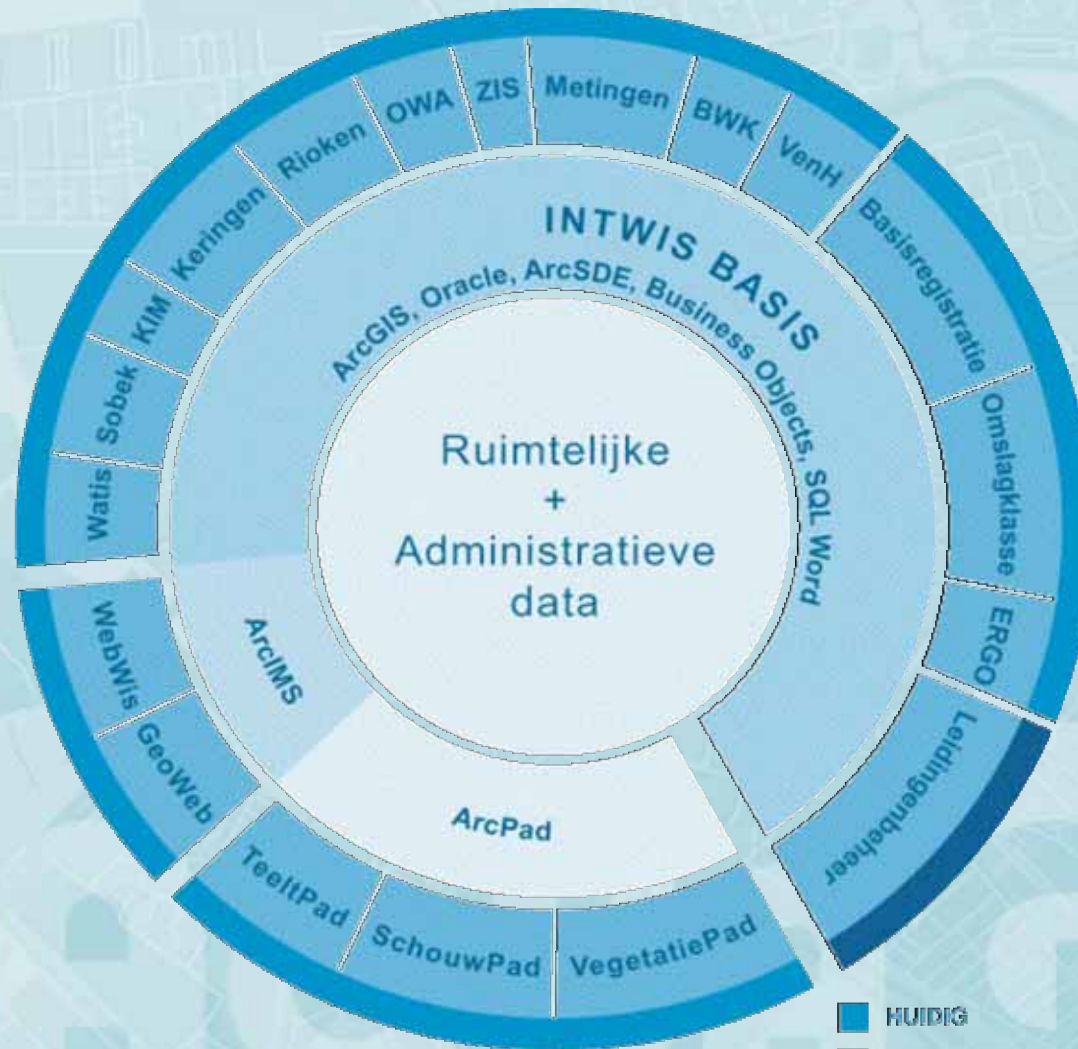
Supported Processes

- Water quantity / quality
- Water protection (dikes)
- Cadastral information
- Sewer system data
- Waste water quality
- Wvo permits (law on contamination of surface water)
- Taxes
- Registration of properties

INTWIS

- 10 till 200 end users per Board
 - 5 initiative Water Boards
 - Currently 17 Boards (66%)
 - Use of Aquo (Adventus)
a integrated logical datamodel
-
- Web connection
 - Field connection (ArcPad)
 - BusinessObjects reports
 - Several boards work with Citrix

INTWIS Dashboard



The old way: how it was...



The new way: INTWIS

The screenshot displays the INTWIS 8.6 software interface, which is used for managing water infrastructure data. The interface is divided into several main sections:

- Data Entry Form (Left):** A form for entering details for a specific water feature. The 'Code' field contains 'DAF-M1260'. The 'Omschrijving' (Description) is 'A'. The 'Soort vak' (Type of feature) is 'afvoervak' (outlet). Below the form is a table for technical specifications:

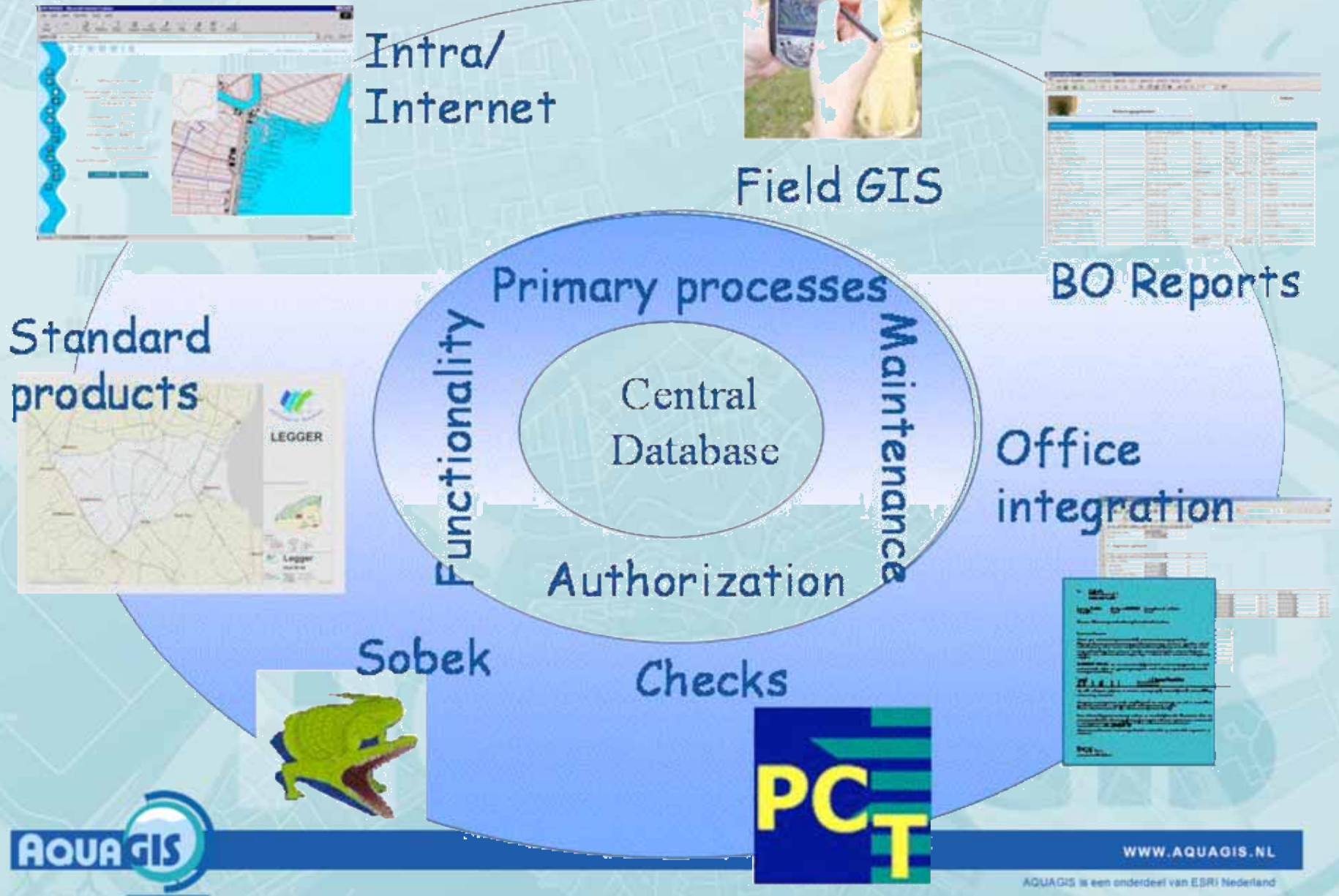
Alg.	Status	Th.prof.	Hydr.	Memo	
Inst.hoogte (L)	0	Inst.hoogte (R)	0	NAP/RP	
Plasb. talud (L)		Plasb. talud (R)		1:x	
Breedte plasb. (L)		Breedte plasb. (R)		m	
Pl.b.hgte/diepte (L)		Pl.b.hgte/diepte (R)		NAP/RP	
Talud (L)		Talud (R)		1:x	
Bodem Breedte		m	Bodemhoogte		mNAP
Waterdiepte		m	Waterpeil		mNAP
Lengte	0	m	Waterbr. ref.peil		m
NAP/Referentiepeil					

Map (Right): A map showing the water infrastructure network, including canals, bridges, and other features. The map is overlaid on a topographic background. A legend on the left side of the map lists various features and their corresponding symbols and colors:

- Br-eindpunt Kunstwerke
- Br-pnt Kunstwerken
- Bruggen
- Duikers
- Gemalen
- Stuwen
- Vaste dammen
- Br-lijn Af-aan-boezemv.
- Br-lijn Kunstwerken
- Duiker
- Br-lijn Opp. Water
- Br-vlk Opp. Water
- Gelockte gebieden
- Top10 huizen (0 - 50k)
- Top10 lijnen (0 - 50k)
- Top10 vlakken (0 - 50k)
- Top50vectorvlakken
- Uw Waterl en kunstw b
- Waterschap (45k - ~)

The map also shows a scale bar at the bottom indicating 156725,08 573451,25 Meters. The Windows taskbar at the bottom shows the Start button, several open applications including Microsoft PowerPoint, and the system clock showing 15:43 on 15/06/2008.

INTWIS Components



DSDM

- All INTWIS modules are built following DSDM-concepts
- Dynamic Systems Development Method
- Based on best-practices, originated in England
- 9 DSDM principles, the bases of the Method
- Other methods:
workshops, timeboxing, prototyping,
MoSCoW: must-should-could-won't have

INTWIS Users



With the new IRIS project the south will follow within 3 years