

# Weather Data and Automated 'Real-time' Control of Sewerage Systems



## **Smart Homes & Cleanpower 2013 Conference**

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**[www.hvm-uk.com/smarthomes](http://www.hvm-uk.com/smarthomes)**

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LOVE EVERY DROP. PUT WATER AT THE HEART  
OF A WHOLE NEW WAY OF LIVING.

# A Changing World



**"It's flash-flooding caused by prolonged torrential rain. The weathermen can predict rainfall but it's very hard to predict where this kind of flooding can occur."**

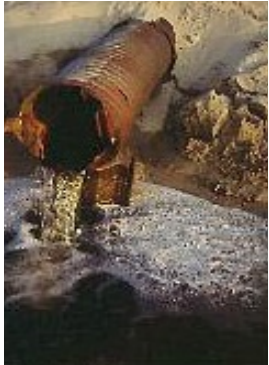
**Great Yarmouth 2006**



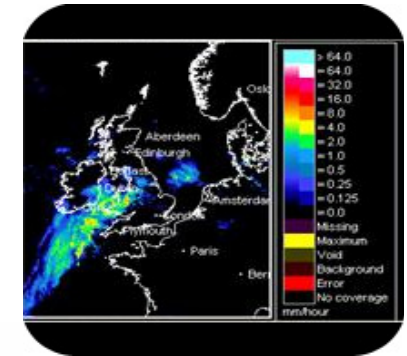
# Innovation Opportunities for Wastewater Networks



Pollution prevention



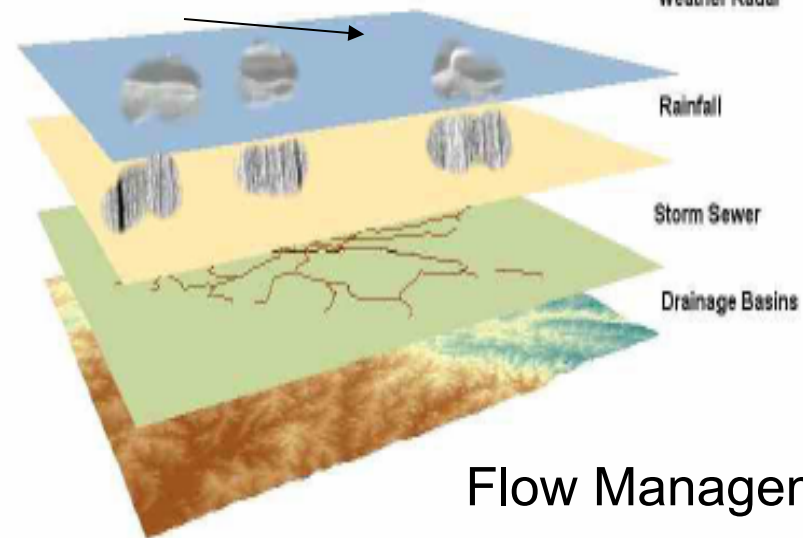
Rainfall prediction



Real time Control



Pump station Optimisation



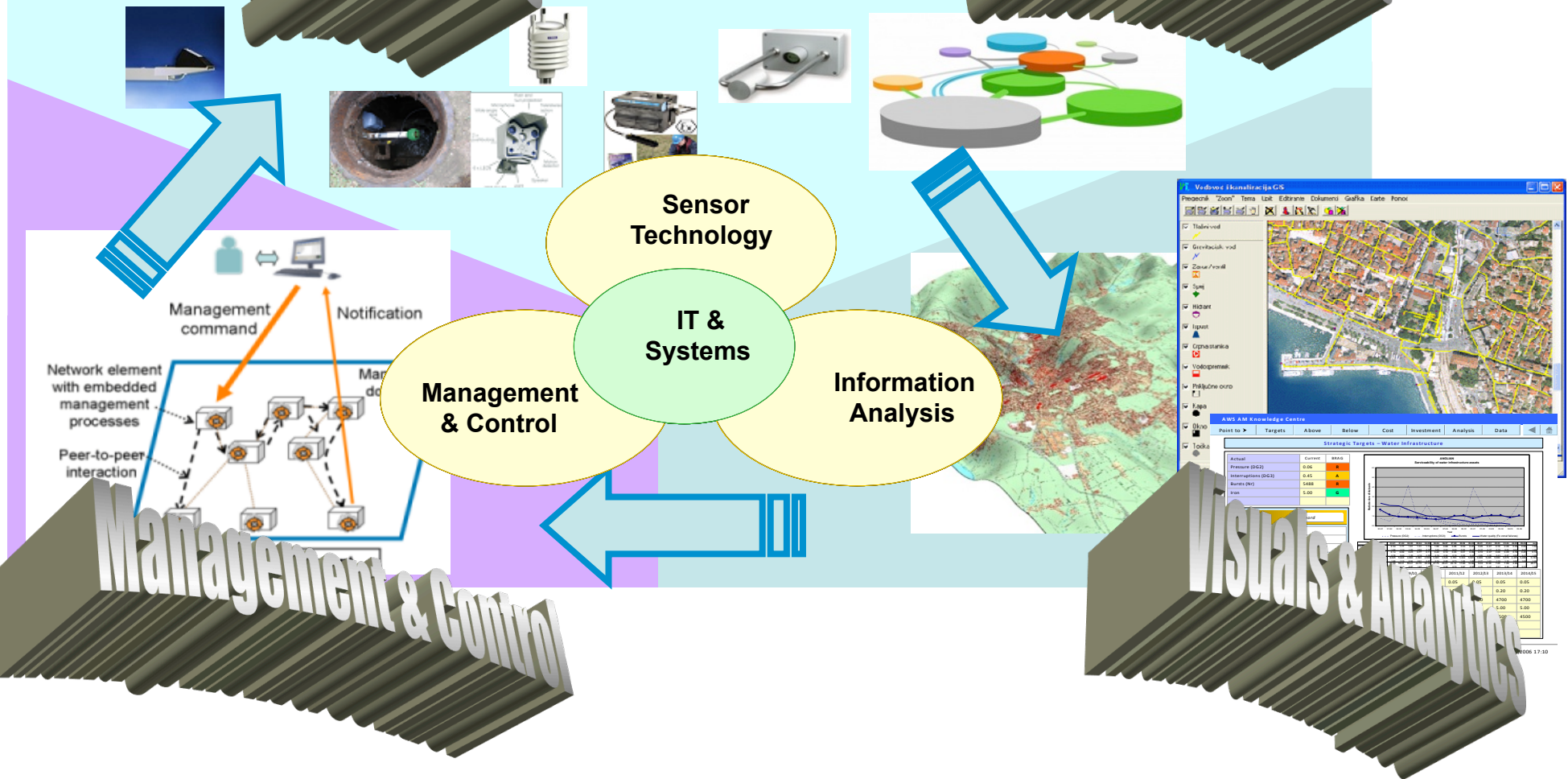
Flow Management

# Sewernet – Intelligent Networks

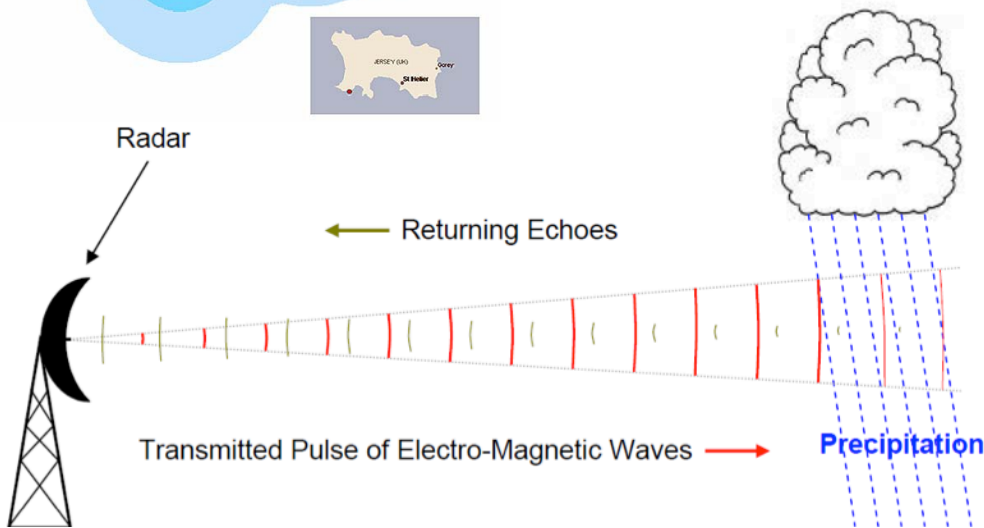
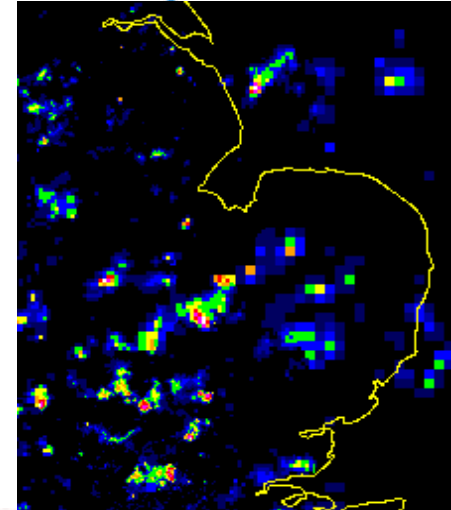
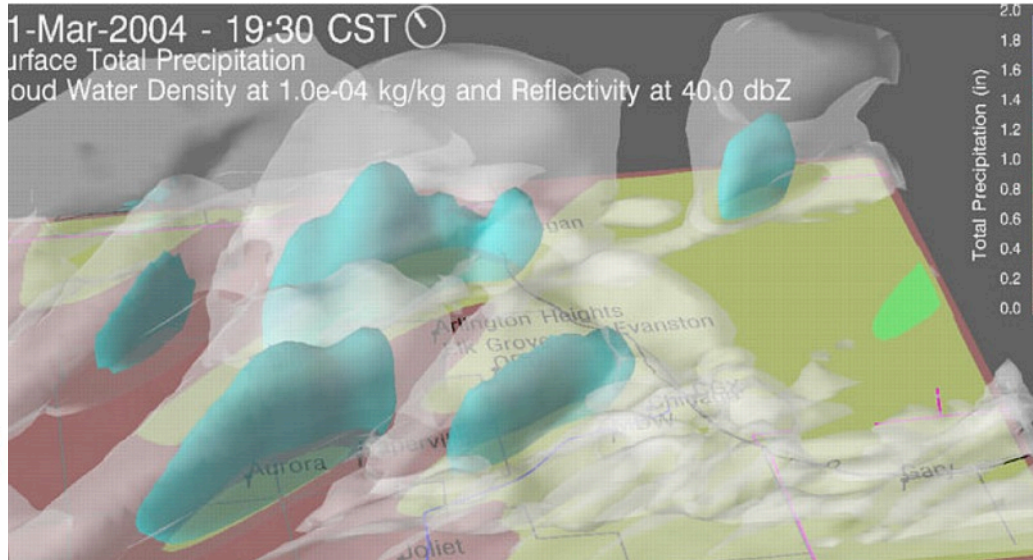
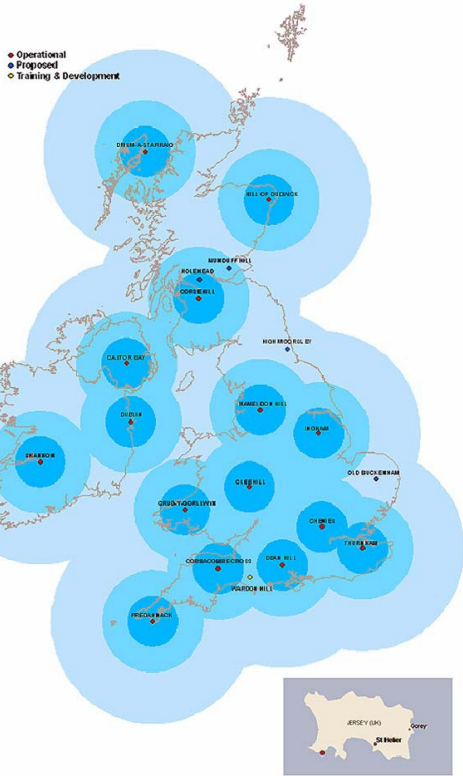
love every drop!  
anwater

Sensors

Sensor Networks



# Weather Radar – Rainfall impact on Sewer Networks



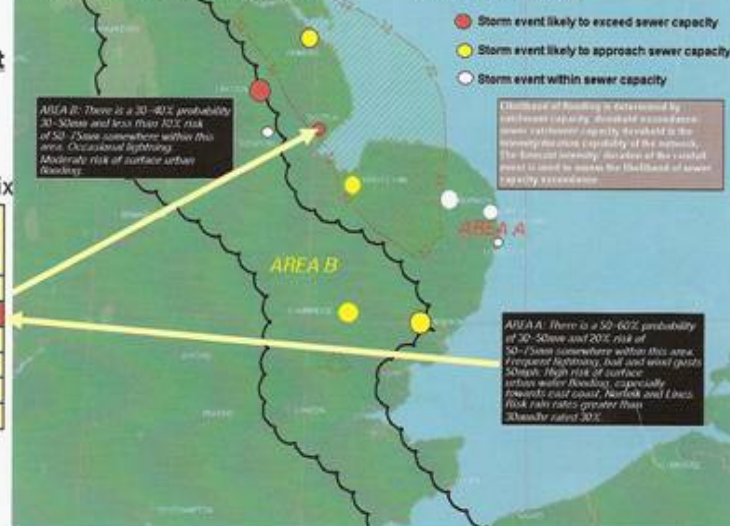
## Rainfall Sensitivity Matrix for Catchment

Rainfall Intensity in mm / hour  
Previously dry/ (previously wet)

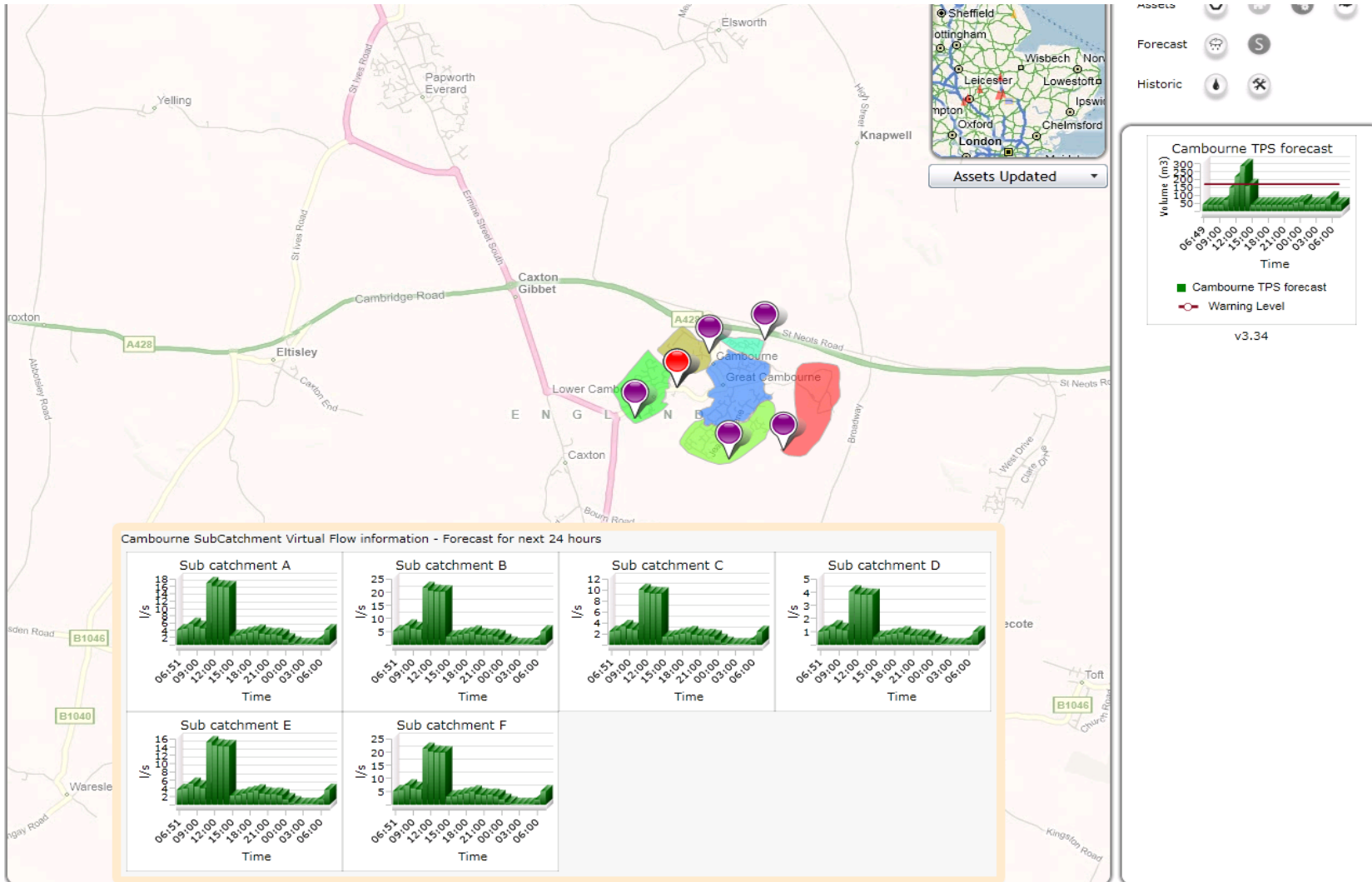
### Boston Catchment Matrix

Rainfall Duration	Sewer system capacity met (85%)	Sewer system capacity exceeded (100%+)
15'	64 (58)	76 (96)
30'	48 (44)	54 (66)
1 hour	36 (32)	40 (38)
2 hour	30 (30)	36 (34)
4 hour	14 (12)	16 (14)
6 hour	10 (8)	12 (10)

## Extreme Rainfall Alerts (ERA)



# Operational dashboard—monitor & analyse



# A Changing World



“Flash-flooding can be caused by prolonged torrential rain. The weathermen can predict rainfall and we can now use this information to better manage our sewer networks to help protect against flooding.”



Great Yarmouth 2013

# Thanks for listening

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every  
drop.   
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