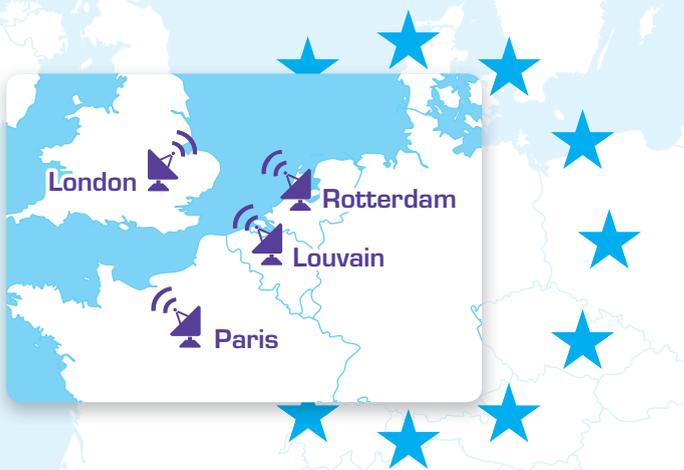


# 4 CITIES GAIN RAIN

## THE PILOT SITES

The RainGain project is being implemented in four cities in the **northwest of Europe**. In these cities, ten pilot sites with different environmental features (topography, land use and population density) were selected for testing developed technologies under different conditions.

For each pilot site, the local rainfall data are measured at high resolution and analysed in order to identify the best solutions and to improve pluvial flood management.



Through this **European cooperation**, the RainGain partners share their expertise and apply a common methodology to the ten pilot sites. In each of the cities involved, the emphasis is placed on one specific step of the project's scope.

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The RAINGAIN project involves 13 partners and is funded by the European Union's NWE Interreg IVB program. [www.nwe.eu](http://www.nwe.eu)

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**Monitoring and prediction of fine scale precipitation** to deliver and improve management of urban pluvial flooding



[www.raingain.eu](http://www.raingain.eu)  
@RainGainProject  
[raingain.tumblr.com](http://raingain.tumblr.com)



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## ANOTHER WAY OF MONITORING RAINFALL

The rapid growth and urbanisation of cities has increased their vulnerability to intense rainfall events.

Through use of state-of-the-art weather radar technology, the **RainGain** project is developing solutions for better management of storm water in urban areas.



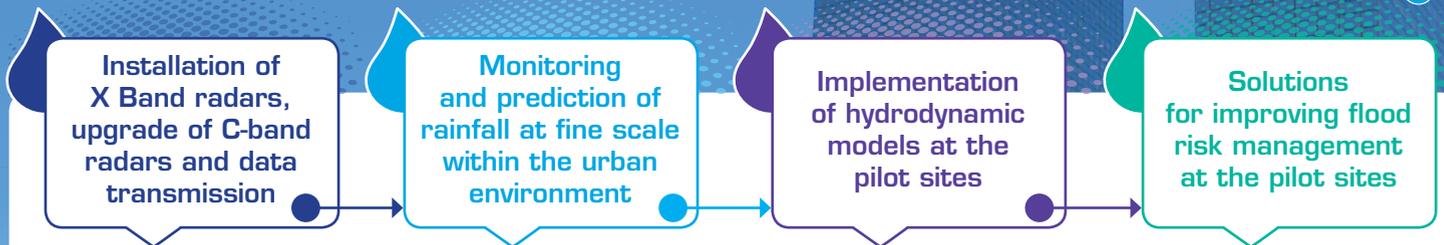
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- A** A Selex Meteor 60DX dual-polarisation X-band radar is being installed at the Cité Descartes campus in Champs-sur-Marne.
- B** A maritime type single polarisation X-band radar, located in Leuven.
- C** A Selex Rainscanner single polarisation X-band radar was tested in London between April and October 2013.
- D** A SSBV dual-polarisation X-band radar is being installed at the National Nederlanden tower in Rotterdam.

WHEN AN INTENSE STORM HITS A CITY, MILLIONS OF CUBIC METRES OF STORMWATER RUNOFF ARE GENERATED WITHIN MINUTES AND MUST BE PROPERLY MANAGED IN ORDER TO PREVENT FLOODING OR LIMIT FLOOD DAMAGE:

Should we store it for later treatment or drain it as fast as possible to the nearest recipient? Should we issue a warning, divert traffic and evacuate people?

The successful management of such events strongly depends on the availability of fine scale rainfall measurements. **State-of-the-art radars** can detect localised storms, such as summer thunderstorms, and can help improve prediction of flood risk.



The radars tested by RainGain operate in a way which allows rainfall measurements to be made at higher temporal and spatial resolutions (1 min / 100 m) than are typically produced by surveillance radars operated by meteorological services (usually 5 min / 1 km). The weight and cost of X-band radars are lower, which enables decentralised monitoring of rainfall.

In the RainGain project, algorithms are being developed to generate more detailed rainfall estimates and short-term forecasts based upon radar data.



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The refined rainfall estimates are provided as input to models which simulate the hydrological response of urban systems.

These results enable the development of new solutions for urban flood risk management. For example, it will be possible to predict flooding events with a sufficient lead time to enable alerts to be issued and response plans to be implemented.



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