

# GIM INTERNATIONAL INTERVIEWS PROFESSOR PETER VAN OOSTEROM

## In-depth Research to Service Practice



Peter van Oosterom joined Delft University of Technology (TU Delft) in The Netherlands as a full professor in 2000. The main thrust propelling his efforts is a keenness to see how his research serves practice. That is why he co-operates extensively with industry and governmental agencies, and also why the University of Technology Malaysia (UTM), where he is presently on sabbatical, is so appealing to him.

### ***Which developments in the geo-ICT field have most surprised you?***

Mobile computing, positioning and augmented reality (AR) all developed surprisingly rapidly. In 2000, my group was involved in an AR project and we carried the devices we needed in a backpack. Today, you have Google glasses, projections on windshields and

Layar apps. Impressive progress has also been made based on combining positioning and orientation, 3D geo datasets and user interfaces. The huge interest in geoinformation from giants such as Google and Microsoft along with other major ICT players has surprised me as well.

### ***And what about the other way around?***

Reactive data structures to store vario-scale map data – the topic of my PhD research 25 years ago – developed slower than I expected, as did advanced geometry support to integrate CAD and GIS including 3D topology, curved primitives and point clouds. The solutions are still ad hoc and they have not yet gone mainstream.

### ***You are co-designer of the Land Administration Domain Model (LADM). Why should authorities implement or upgrade land administration systems (LAS) based on LADM?***

It took the FIG/ISO team led by Christiaan Lemmen over a decade to reach the consensus necessary to bring LADM to a standard adopted by ISO and CEN, but the benefit is that it is based on the collective experiences of experts from right around the globe. It allows meaningful exchange of data within and between countries and it is a cornerstone of SDI. The LADM covers surveying, cadastral maps, RRR (rights, restrictions, responsibilities), mortgages and persons, whether individuals or groups – in all, the complete LA spectrum. It supports formal and informal RRRs, allows integrated 2D and 3D representation of spatial units, and links registration data to source documents, both spatial (survey) and legal (title, deed). Being LADM compliant will seldom be the reason behind building a new LAS. However, all systems need upgrading and maintenance eventually, which would be a good point to switch to LADM compliance. In countries where LAS still has to be pioneered it is possible to start simply, with texts, sketches and point parcels, and to later move towards full topology and 3D support, as Rod Thompson pointed out at the 5<sup>th</sup> LADM workshop. This is why UN-HABITAT and FAO use the standard.

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