



Maarten van Gool

Maarten van Gool joined Tele Atlas as Chief Financial Officer in October 2008. Since July 1st, 2010 Maarten has been MD Licensing within the TomTom Group. The Licensing business unit leverages TomTom's wealth of content across the group in order to deliver relevant, fresh and high-quality digital maps, and content, to a wide range of customers. The customers range from leading PND manufacturers, internet companies, mobile phone handset manufacturers and network operators as well as governments and enterprises. The product range includes the world's most comprehensive automotive-grade digital maps covering over 100 countries and territories as well as services such as Speed Profiles and the real-time traffic service HD Traffic.

Maarten van Gool joined TomTom (Tele Atlas) from measurement instruments and solutions leader Agilent Technologies, Inc where he served as Chief Financial Officer. Maarten managed Finance, Treasury, Legal, Information Systems and Human Resources worldwide for Tele Atlas. He also served as the Global Compliance Director for Agilent.

Maarten van Gool holds a Master of Business Administration degree from the University of Bradford in the United Kingdom and a Bachelor of Business Administration degree from the Amsterdam Business School.



“If we want to improve urban mobility for real, we will have to be even more innovative”

Interview with Maarten van Gool, Member of the Executive Committee of TomTom

Maarten van Gool shares his thoughts about his company's transformation, the dramatic changes in the possibilities for drivers and the future of transport.

For many people, TomTom is to portable navigation what IBM was to personal computing – you created a new mass market. Can you tell us a bit about the early days of TomTom?

TomTom was founded in 1991. Initially we focused on developing software products for mobile devices. In 2004 we launched our first stand-alone portable navigation device. It defined an entirely new category of consumer electronics, meeting a need for a portable fit-for-purpose navigation device that was simple to use, affordable and worked better than any other navigation solution on the market. Today, the consumer business still accounts for around two-thirds of our revenues. But in-dash navigation systems, i.e. systems sold to automotive manufacturers, are gaining importance. The automotive business now accounts for close to 20 % of revenues.

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Since then, you have also moved into solutions, as other hardware companies have before you. How did that come about?

We are indeed evolving from a purely consumer electronics hardware company into a company providing drivers with a navigation experience. We combine hardware devices, software algorithms, content (such as road maps) and real-time data to offer solutions, not just for consumers but also enterprises and governments. This shift occurred in two major phases. In 2005 we acquired a German company that offers fleet management solutions to fleet owners and formed the foundation for our Business Solutions business unit. In 2008 we acquired Tele Atlas, one of the two largest global digital mapping companies. That was a truly transformational move which took us into content and content solutions. By leveraging Tele Atlas's vast database

of maps, we can offer journey planning and traffic solutions to the consumer's platform of choice: a portable navigation device, a smartphone or via the internet.

What does journey planning mean in practice?

In the past a driver was happy to be instructed about how to get from A to B. Today, the same driver wants the journey experience to be optimized throughout, from origin to destination. For example, he wants the navigation instructions he gets to respond to changing traffic or weather conditions in real time. Or, when he gets close to destination, he wants to be guided to the nearest parking lot with a free space. And that is only the beginning. We'll see a range of useful innovations coming to market in the near future. Imagine that you can have the time of the morning wake-up call on your smartphone adjust automatically to expected traffic and weather conditions - for example, as a function of the centimeters of snow expected to fall during morning rush hour, it would wake you up so many minutes earlier so that you are on time for your appointment.

And what about traffic solutions?

The value of a system like ours increases with the volume of historical GPS traces and real-time traffic data that is feeding it. The more data it gets, the more accurate and up-to-date the information it can give to users. The more accurate and up-to-date the information, the more users will adopt the system. The more users there are, the more real-time data about position and speed are generated. So it is a virtuous circle – it's the real beauty of our system. Today we have an installed base of over 56 million devices out there.

How does that work in practice?

We don't track people, but we can continuously track the position of the navigation devices, with the full consent of their users and fully anonymously. Every two seconds, we thus get an updated picture of traffic flows and density, in more than 20 countries already. We really know how traffic behaves. And, as cars are getting connected, we can broadcast those live data back to drivers. Of course, it

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takes a huge effort to keep all mapping information fresh: speed limits, one-way drive directions, etc. change all the time. In a few months' time we will be able to promise an update within 48 hours at most. Our vision is to have truly real-time mapping.

This is all very exciting stuff for individual drivers, but how does it help to improve overall mobility in metropolitan areas?

It does so in many ways. For example, by tapping into historical data about traffic flows and density, we can calculate average speeds between any two points every 5 minutes, around the clock. That information enables traffic managers and infrastructure planners to make much better-informed decisions when seeking to reduce congestion. For example, we were discussing recently with the Department of Infrastructure of a US state the best way to improve traffic flow. They were considering building a new tunnel. Using historical and live data, we demonstrated that diverting part of the traffic to another nearby yet underutilized tunnel was as effective and of course much less expensive than building a new tunnel.

Some people would call that a paradigm shift.

It certainly is. During the last ten years, as traffic congestion has continued to get worse, the public authorities in charge of transport have invested heavily in so-called Intelligent Transport Systems or ITS: roadside cameras, dynamic recommended speed signalling systems and the like. At TomTom we are convinced that alternative technologies based on algorithms and data can lead to much better solutions at a fraction of the cost. These optimize existing infrastructure rather than build new infrastructure. Through the traffic data we capture and analyze, we see there is free flow in cities – the challenge is to dynamically route drivers from congested to free-flow zones. Today the emphasis in many cases is still on hardware and legacy ITS. In the future, cities will use technology differently.

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Can you give some concrete examples of this?

Take the inductive loops that are used to detect and count the number of vehicles driving by a given road spot. With our technology we can not only provide that information more cheaply, but also enrich the information. We can say "Of all the vehicles passing that spot, x % originated from A and had B as their destination." That information in turn could be used, for example, to devise intelligent road-pricing schemes. Traffic lights are another example. Real-time traffic data can be used to optimize traffic lights signalling dynamically as a function of actual traffic flows. More generally, at some point in time all road signals could be removed and replaced by dynamic personalized information delivered to each individual driver.

When do you expect that to happen?

Of course it won't happen overnight. It's our long-term vision. Mind you, the main bottleneck is not technology. Today we can track every single choice – e.g. turning left or right at a junction – that each individual driver makes at every point in his or her journey. It makes for a vast amount of data. Just imagine the possibilities it creates.

If it's not technology, what is holding back the adoption of such solutions?

There is a great disconnect between the amazing capabilities available and the world's mobility-related problems such as carbon emissions, productivity losses and the like. The disconnect becomes apparent through the big investments society continues to make – wrongly so – in legacy systems. If we really want to solve the mobility challenge, four elements should come together: technological innovation, physical infrastructure, public policy-making and regulation, and public-private partnerships.

We have already touched upon the first two elements. Can you expand on the others?

Let me give you an example. The other day we were discussing a specific, radical, congestion-relieving public-private investment with a government representative

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somewhere in the US. The \$1 billion plan is for the private investor to build a six-lane road between two urban areas, in exchange for a 100-year concession. Of the six lanes, four would be free and two would have a toll. The contract stipulates that the private investor must ensure free flow on the toll lanes at all times. And, to that effect, he is planning to auction off drive-through rights, with the price likely to vary with real-time traffic flows. This is what I call an ultra-creative concept.

Are public authorities ready to go that way?

« Concepts like the one I've just described may be hard to swallow in some places, but if we want to improve urban mobility for real, we will have to be even more innovative than we are today. And given the current constraints on government budgets, public-private partnerships are an absolute must. Of course, we need proper and forceful regulation in these matters, and it will all take time, but something has got to give. Do you know, for example, that in the Netherlands we have some 400 road managers? The fragmentation of decision-making – municipal, provincial, regional, national – leads to high complexity. Standardization and regulation will be required to manage the complexity.

Public authorities understandably pay much attention to transport modes other than cars, whereas TomTom, including in its 2010 Traffic Manifesto, focuses on car drivers. How do you plan to operate in the multimodal world?

There is no doubt that we will need to tap into the need for multimodal solutions. For example, we can facilitate the convergence to a single platform. Multimodal is part of our long-term vision. Our transformation from a consumer electronics company into a solution provider will continue. Our traffic solutions business is liberating us from the hardware form factor, so to speak. The construct of our company will evolve toward a greater weight of services. But it is hard to put a specific timeline onto it.

In conclusion, when it comes to solving the urban mobility challenge, on which side of the pessimist/optimist divide are you?

We are living in a fascinating world. The agenda ahead of us is enormous and the road will be long. We will need to take off in a completely different way. But if we embrace the potential of innovation, we will get there.

Interview conducted by Wilhelm Lerner (Director) and Herman Vantrappen (Director and Chief Editor of Prism).