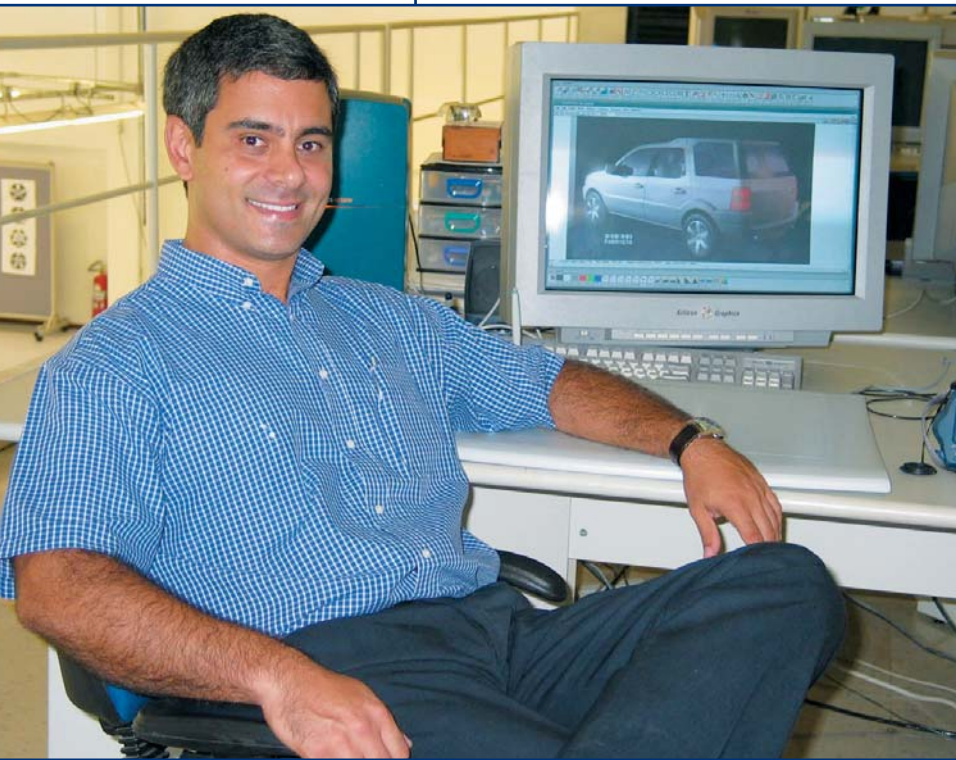




# The Interview

## João Marcos Ramos: A Question of Style



João Marcos Ramos

... *A* real  
 turnkey project ...

Ford Brasil started operating as early as 1919 assembling cars and trucks. Since then, the investments of this US manufacturer in South America have multiplied and now Ford has numerous manufacturing facilities in Brazil. In Taubaté, they produce engines (the Zetec RoCam engine was produced for the first time here), transmission systems and components. This plant, incorporating the "Lean Manufacturing" philosophy, has a manufacturing capacity of 250,000 engines and 450,000 transmission systems per year.

In São Bernardo do Campo, they manufacture cars and trucks. More cars - about 250,000 per year - are turned out by the plants of Camaçari, in the state of Bahia.

In the 4 millions of square meters of the Testing Center of Tatuí, in the state of São Paulo, state-of-the-art inspection systems perform every kind of test and evaluation of the finished product.

The Ford industrial complex in the North-East of Camaçari is the most recent Ford plant in South America. It was inaugurated in October 2001 in cooperation with 30 suppliers. By this new investment, named "Amazon project", the US automaker has launched a new range of products onto the Brazilian market intended for the local market.

By incorporating the most modern technologies and the most advanced manufacturing concepts, like the Modular Sequential Assembling, Ford North-East has become a pilot plant for Ford throughout the world. Suppliers take active part at the accomplishment of the assembly lines and process definition, sharing responsibilities and installation activities.

Hexagon Metrology Brasil has been chosen as the key supplier of dimensional control systems in the plant: not only measuring machines and robots, but also foundations, air-conditioned enclosures, in-line automation, programming. A real turnkey project.

In addition to the in-line measuring machines and to the Central Control Room CMMs, Hexagon Metrology Brasil has supplied a DEA Vento horizontal-arm CMM for the Product Development Department, equipped with a new light milling system for models. It has been a particularly exacting project for Hexagon Metrology because of the Ford demand to concentrate all possible functions in the same machine: tactile measurement, laser sensor measurement, scanning, reverse engineering, milling. The success of the first installation persuaded Ford to order two new PRIMA horizontal-arm CMMs and the milling option for two existing Vento arms. We've interviewed João Marcos Ramos, Head of the Product Development Department of Camaçari.

**Mr Ramos, what are the main activities of your department?**

The Design Center of Camaçari is in charge with style development for all vehicles manufactured by Ford Motor Company in South America, intended for the local market and partly for export. By style design we mean every detail: from the smallest logotype to the whole vehicle - from car body to the interior.

**From 2002 to date, Ford has purchased for your department two DEA horizontal-arm**



**CMMs intended for milling operations too. What are the advantages of this investment?**

These machines are being operated round the clock, i.e. in night shifts too. This allows us to spare valuable time during project development since night shifts are unmanned. Moreover, quality and efficiency of the same process have drastically improved: operations that were performed manually before, are now taken over by DEA machines: from measuring through scanning to milling.





***What activities and responsibilities are entrusted to your department within the development of new products worldwide?***

As I've said, we're in charge with the development of products intended for South America but for export as well. We've a close and continuous cooperation with the North American headquarters and with our European operations to the purpose of keeping design uniform as much as possible. However, we have the leeway we need to suggest solutions that fit the particular market the product is intended for.

***Any anticipation on the new developments Ford is working at, either in Brazil or in the rest of the world?***

Unfortunately, this is a kind of information I cannot share. We've been working at a few very interesting and creative projects and for them we've been employing our new plant and equipment to the full. We can but wait ... ■





#### **Hexagon Metrology**

Hexagon Metrology is part of Hexagon Measurement Technologies, a newly formed business area within the Hexagon Group. Hexagon Metrology includes leading metrology brands such as Brown & Sharpe, CE Johansson, CimCore, CogniTens, DEA, Leica Geosystems (Metrology Division), Leitz, PC-DMIS, ROMER, Sheffield and TESA. With an installed base of more than 50,000 CMMs, over 7,500 PCMMs, millions of hand-held instruments and over 30,000 licenses of the popular PC-DMIS metrology software, Hexagon Metrology daily supports its customers to fully control their processes and ensure that what has been designed is in fact manufactured. The company offer of machines, systems and software is completed by a wide range of product support and aftermarket services.

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