



## Is General Motors opening Pandora's box?

After the big wave of auto part localization and local sourcing, the next “Big Bang” has just happened in China's automotive industry without leaving any traces in global media: *the development of the 1<sup>st</sup> global car platform under Chinese Engineering leadership.*

It all began with a side note of my German industry friend during a dinner party in Shanghai. Hubert has been working more than 10 years as Head of Operations in a Tier-1 Technical Center. We shared our opinions about differences in the strategy and culture between German OEM and American OEM doing business in China. Our discussion became heated on the issue of “Angst” related to undesirable and uncontrolled technology transfer to the Chinese joint venture partner. We both agree that, for example, in the field of NEV New Energy Vehicles “Angst haben vor den Chinesen” is exaggerated and outdated, as some C-OEM have already leap-frogged their German peers in entry and middle-class NEV segment.

### Competing with Emerging Chinese OEM

German Volkswagen Group launched in 2008 the Lavida four-door compact sedan, being the first mass-produced car mainly designed by its Chinese SAIC for the Chinese market. The original Lavida is based on the PQ34 platform (PQ34L), competed with VW Jetta/Bora Mk4 model, produced by FAW-VW in Changchun/Jilin province. In 2012 the New Lavida was again positioned as low-cost model to compete with Chinese carmakers and currently costs 89.900 RMB (2013 New Lavida).



Fig. 1: VW New Lavida

Only a year later in 2013 VW introduced the 3rd generation Gran Lavida, based on the technical concept of Audi A3 Sportback 8P. Front and rear bumper using VW Lavida design, but the taillights are similar to the Audi A3 Convertible. The 1.6L Gran Lavida can be purchased for 112.800 RMB, which is only 800 RMB less than the China’s Car of The Year, Geely Borui (博瑞) GC9, a 5m large middle-class sedan with 2.4L (120 kW/163 PS) powertrain mated with a six speed dual-clutch.

So far, VW has only one emerging-country B-segment model (sedan, hatchback) and only for the Chinese market, partly (co)-engineered by the SAIC’s engineering center and VW Wolfsburg. Sales of Gran Lavida in 2015 (93.763) was 15% down compared 2014 (114.800)

My friend kept talking about car development strategy for emerging markets and we both agree that German and US automotive engineers are facing a huge challenge if they need to improve cost-efficiency in the design and development process of a low-cost car.

Entrenched structures of Western style development methodology with all its test-loops, “Freigaben” (approvals), iterations, strictly R&D procedures and documentation requirements is a huge obstacle for the needed mindset-change to design a true low-cost platform for emerging car countries. My partner Volker, a former MAGNA engineer who had been working with leading international OEM in China, is also backing this position.

Hubert asked me then: *“Are you familiar with GM’s new global emerging market platform GEM and its implication for whole car design and development process?”* My short reply was “No”, I could not even find footprints in our OEM production, and sales forecast DB.

	B-Segment Front Module				C-Segment Front Module						Total
	B-Short HB	B-Short NB	B-Long NB	C-Car	C-Car SW	C-CUV	B-SUV5	B-MPV7	C-MPV		
GM REPLACES	 312k BR, MX "Onix" 4星	No Entry	 386k BR, MX, IN "Prisma" 3 SORP 4	 119k BR "Cobalt" 3 SORP 4	No Entry	No Entry	 178k BR, MX New Entry 3 4	 70k BR "Spirit" 3 4	No Entry	1,065k not in China produced	
SGM REPLACES	No Entry	 180k "Sail" 4	 220k "K216" 4	 180k "D15"	No Entry	 60k RV Replacent 4	 80k 4	No Entry	No Entry	720k	
	No Entry	No Entry	No Entry	 270k "K211"	 60k "K221"	No Entry	 80k 5	No Entry	 80k "K256" 5	490k	
Total	312k	180k	606k	569k	60k	60k	338k	70k	80k	2,275k	
WB	2551	2575	2611	2671	2671	TBD	2570-2581	2671	2800		
Tire ODiameter	620	605	620	635	635	TBD	650	650	650		
Track Spurbreite	1495	1495	1505	1535	1535	TBD	1535	1535	1535		

Fig. 2: GM’s “GEM” platform for emerging markets

GM’s previously called project “Amber” recently got permission to proceed for the global rollout in BRIC countries incl. Mexico, Africa and Eastern Europe. From the planned production volume of about 2.3 million cars, GM plans to produce 1.2 million passenger cars mostly in B and C segment only for China. SOP for the first GEM

based China model K216 is scheduled for April 2019 with an annual volume of 112.000 cars.

As the GEM-platform is a complete new, global platform except for CEE and US markets, the crucial question is which of GM’s six technical development and design center was awarded the engineering contract? Neither the US nor the Mexican and Brazilian nor Port Elisabeth in South Africa got this major R&D business – it was PATAC in Shanghai.

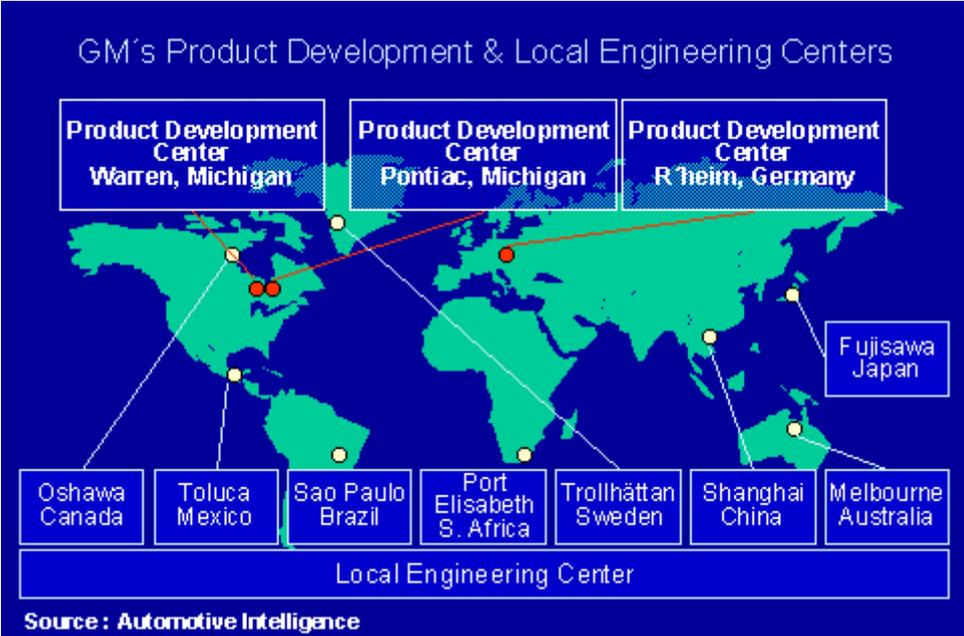


Fig. 3: GM’s “GEM” platform for emerging markets

PATAC the Pan Asia Technical Center, a joint venture between GM and SAIC, got the green light to develop the ALL car lines for ALL emerging markets. A truly great leap forward from the work in the early days of some local Chinese models such as the 2<sup>nd</sup> generation Buick GL8 or Chevrolet Sail.

PATAC is now strengthen its position as the leading engineering, manufacturing and design partner in Asia, India, South-America and Africa. It has become a Chinese leading, international competitive automotive design and development company, inheriting GM’s state-of-art technology (incl. NEV powertrain and engine design), processes, insights and experience.

Under Chinese management, Chinese engineers, designer, homologation experts, supply chain and sourcing managers, etc. will Go Abroad” to explore the automotive world and different conditions in other automotive markets. They learn how to tackle different homologation, safety and design requirements for each market, where the GEM platform will be launched in future. They will acquire the knowledge how to engineer a global platform and they will select and manage the future suppliers, whereas a large number of them will be selected in China. As GM’s GEM platform is clearly positioned as an emerging country platform, it is likely that the sourcing lead will be managed by PATAC, and therefore, more and more local Chinese suppliers will be short-listed and later get orders. A few years later, these armada of trained Chinese top engineers will be hired by the Big Three (GWM, Geely, BYD) and other

Chinese OEM to develop their own platform for emerging and mature Western markets and some of them will be relocated to the newly founded engineering Centers of Chinese OEM in Europe and in the American market.

Although this is just a future scenario, it is a likely one. The question remains: what impact will this have to the (engineering) business and supplier networks of mature Western carmakers and all their Tier-1/2 suppliers around the globe, if Pandora's Box once has been opened by GM?