Jos,

We did already discuss this with R&D.

In fact, they have put this project on the roadmap for next year as the most important project for them. Daniele and specifically SKP Amarnath are the main sponsors.

However there are several options how to get APMEA on Unilab and Interspec. The idea of today’s discussion is to estimate the impact from a IT architectural point of view.

The current client server model will be a challenge rolling out globally with respect to response times. The new, cloud based solution will offer a better user experience but will need more effort from both IT and business.

If we align today as IT on, what we think should be the best solution, or the best road towards the end solution, this would help the discussion with R&D afterwards.

Regards,

Patrick

**From:** Jos Wesselink <jos.wesselink@apollotyres.com>   
**Sent:** Monday, January 4, 2021 09:28  
**To:** Patrick Goossens <patrick.goossens@apollotyres.com>; Patrick Goossens <patrick.goossens@apollotyres.com>; Hizmy Hassen <Hizmy.Hassen@apollotyres.com>; Neeraj Mehta <neeraj.mehta@apollotyres.com>; Robert Jeurink <robert.jeurink@apollotyres.com>; Peter Schepens <Peter.Schepens@apollotyres.com>; Shibu George <shibu.george@apollotyres.com>; Jos Wesselink <jos.wesselink@apollotyres.com>  
**Subject:** RE: Discussing options: Global Lims system for R&D

Hello all

I just like to react on this matter, before we have this meeting. I see that our ”customer” R&D is not present in this meeting and in my opinion this is the main problem we have.

In the past (even before the take over from Vredestein by Apollo) we had a chief of R&D called Peter Snel who was fully aware of the power of IT in his R&D business process. Under his leadership we introduced the current systems Interspec and Unilab from Siemens and also a seamless information flow from R&D to Manufacturing and Sales.

Until now we still use this in our Enschede factory and when the Hungary plant was created, the same method is used also there.

I know that R&D in India and the factories in India do not use the same method. I know for sure that they do not have a seamless information flow from R&D to Manufacturing and Sales .

In the past we did talk a lot about adopting our structure as a global structure, but it never happened.

As I see it now, the current R&D management is less aware of the power of IT than our former chief Peter Snel and is less eager in creating a global IT approach.

So, in my opinion, before we want to talk about all these options, it would be good to have a basic discussion with our “customer” R&D. Because if the R&D management is not fully supporting such global initiative, any option will fail. And such a support should not only consist of saying YES and acting NO. Also R&D has to invest their manpower in creating such a global approach.

Some time ago I heard Udo say, that implementing and supporting IT systems is only a responsibility of IT and not R&D. Using this opinion will not lead to any succesful IT implementation.

Best regards

Jos

Hi Patrick,

Thanks a lot for the detailed analysis and sharing the options we have in front of us. My meeting with Siemens is around discussing these options only and getting the finer points. My approach would be to explore the possibility of **doing things first time right** so that we are not doing undo and redo again and again. I understand that the product being utilized are either end of life or some of then will be end of life in next couple of years.

Let us explore the options with experts and product owners with open mind and we will ensure from IT side that the enablement is done. As mentioned by Hizmy we will discuss that internally and take a decision as per the time lines.

**Best Regards**

**Neeraj Mehta**

Head  Corporate IT

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signature_935298080

Thank you Patrick for the options. This is really useful and great work in laying out the various options along with Pros and Cons. As you suggest we need to have a meeting within IT first. Can you please schedule a meeting for the 4th of Jan. We need to be aligned fast given we need to then capture all of the costs for the budget which needs to be submitted in mid Jan.

Can you please make an estimate for the Capex / opex investments for Option 1 and 2 for our meeting. I have included Shibu in this mail and it would be good to also have him invited for the meeting.

Thank you

Hizmy

**From:** Patrick Goossens <patrick.goossens@apollotyres.com>  
**Date:** Thursday, 24 December 2020 at 14:00  
**To:** Neeraj Mehta <neeraj.mehta@apollotyres.com>, Robert Jeurink <robert.jeurink@apollotyres.com>, Hizmy Hassen <Hizmy.Hassen@apollotyres.com>, Jos Wesselink <jos.wesselink@apollotyres.com>  
**Cc:** Peter Schepens <Peter.Schepens@apollotyres.com>, Mathias Vlessert <Mathias.Vlessert@apollovredestein.com>, Henrique Saraiva Scarmagnan <Henrique.Scarmagnan@apollotyres.com>, Nico Gevers <nico.gevers@apollotyres.com>, Attila Udvarias <Attila.Udvarias@apollotyres.com>  
**Subject:** Thoughts for choosing a gobal Lims system for R&D

Dear Neeraj / Hizmy,

Last week we had a Steercom with R&D and IT with Daniele and Udo, in which the biggest topic was the necessity to move to one global system for R&D to store specifications and to specify and perform tests based on these specifications.

Currently in Europe we are using Interspec and Unilab from Siemens.

There have been talks between Siemens and Shibu George (from London office) and R&D APMEA (Sankarganesh) about implementing either Interspec and Unilab v6.7 as we use it in Europe or “R&D suite v8” which is Siemens successor for Interspec and Unilab.

In the discussions within the R&D Steercom it became clear that **the most important goal for R&D is to have one and the same system in all regions to be able to better work together**.

We decided to go for the implementation of v6.7 both in Europe and APMEA. This would provide one common starting point so we could move, jointly, to v8 in the future.

During the last couple of weeks I have been discussing these plans with Siemens and ATS (their implementation partner) and I have participated in a demo (by ATS) of R&D suite v8. During and after the demo I was able to discuss the architecture of the several solutions.

The information I have gathered made me realize that **the choice to start globally with v6.7 is not as obvious as it seems**.

I propose to have a thorough discussion within IT about the pro’s and con’s of the several options before making a final decision. The choice we will make will possibly also impact budget requirements.

Neeraj you are planning to have a meeting with Siemens anyway. I hope the information in this mail provide you with sufficient information to go into that meeting.

In this mail I want to shortly describe the differences between the different versions of the Siemens products and the several options we have when implementing one of them or a combination of them.

Unilab & Interspec v6.7:

Being used in: R&D Enschede, plant Enschede, plant Hungary, partly in Chennai by R&D PCT APMEA and for raw materials management.

Client – server architecture (fat client)

Database: Oracle 11.2

Server running on premise in Enschede

Interface to SAP for instance for Bill of Material. In SAP it is being used as information for purchasing and production planning and it is being interfaced to MES.

Results of measurement equipment are being interfaced to Unilab.

Unilab v7: (there is no v7 from Interspec)

Being used in: plant Hungary

Web application

Database: SQL server

Server running on premise in Gyongyos

Interface to Siemens MES in Hungary.

Results of measurement equipment is being interfaced to Unilab.

RnD Suite v8:

Being used in: Not being used in Apollo yet

Web application

Database: SQL server

Server can run on premise or in the cloud (AWS)

Interface to ?

Results of measurement equipment is being interfaced to Unilab.

Which option’s do we have?

You can find a graphical presentation of our options in the attached Word document (however some text is in Dutch)

Option 1:

Use **the v6.7 system as is in Enschede**. Use only the Enschede server.

Advantage:

* No investment in hardware – only extra licenses
* No extensive configuration, we can use the existing setup (provided the R&D process in APMEA does not differ too much from the Eurpean process)
* Knowledge from both IT and business are present in Enschede

Disadvantage:

* One server (on premise) means single point of failure
* Oracle 11.2 is (almost) not supported anymore by Oracle (security risk?)
* Due to the client - server nature performance in APMEA clients is bad. Currently we solve this by using Terminal server. However if Terminal server will be used more heavily we need to re-check if the current one is still up to its task
* Support from Europe to all regions will be hard because of time differences and only a small team (2,5 people) available.

Option 2:

This is the one we were talking about with R&D.

If we upgrade oracle to Oracle v19 (latest version) we could use RAC (replication technology) to also implement a server (on premise) in APMEA.

This could solve the performance issue, but that’s not for sure (it is still client – server).

But this would require us to first upgrade Oracle database in Europe and implement an extra server in APMEA. Costs unknown.

**PS: WE HAVE ORACLE-SUPPORT  
PS: WE HAVE MORE SECURE ENVIRONMENT**

**PS: THIS ALSO MEANS THAT WE HAVE TO MIGRATE INTERPSEC/UNILAB AND ALL CORRESPONDING INTERFACES.**

**PS: EXTRA COSTS ORACLE-RAC-LICENCES**

**PS: 2 MIGRATIES/IMPLEMENTATIES NODIG, DUS EERST NAAR INTERSPEC/UNILAB-6.7 EN DAARNA NAAR V8.**

Option 3:

Go to **R&D suite v8** immediately. Also in Europe.

Disadvantage:

* V8 really differs from v6.7. The architecture is similar but there are too much differences.   
  It will require a thorough redesign of the configuration of the software and it will impact the R&D process itself.
* Because of the differences it will require a lot more effort from both IT and the business to move too v8

**PS: WE HAVE NO VALID SUPPORT FROM ORACLE ANYMORE. THE RISK OF A RUNNING INTO A NEW ORACLE-BUG IS VERY SMALL. THIS RISK SHOULD BE MANAGEABLE WITH WORKAROUNDS OR SO.**

**PS: THIS DEPENDS ON THE MIGRATION-SCENARIO’S. THIS IS PROBABLY THE SAME AS MIGRATING AND IMPLEMENTING VERSION 6.7 FIRST IN INDIA. THE DIFFERENCES BETWEEN ENSCHEDE AND HONGARY ALREADY EXISTS, SO IT DOESN’T MATHER IF WE MIGRATE IMMEDIATELY OR IN A LATER STADIUM.   
PS: ANOTHER DISADVANTAGE WILL PROBABLY BE THE FACT THAT YOU CANNOT START IN INDIA WITH THE IMPLEMENTATION OF VERSION6.7 BECAUSE OF THE LACKING IT-BUSINESS-CAPACITY IN ENSCHEDE. THE WILL BE BUSY WITH THE IMPLEMENTATION OF V8.**

Advantage:

* The advantage however is that, due to the web based solution the hardware architecture is much more suited for global usage then the old client-server technology
* And you only have to change once. If we implement v6.7 globally first (possibly with a lot of performance issues) we still have to move to v8 later.

**PS: ANOTHER ADVANTAGE COULD BE THAT WE DON’T HAVE TO MIGRATE TO ORACLE-19, BUT THERE IS A SMAL SECUTIRY-ISSUE WITHIN ORACLE. THAT SHOULDN’T BE AN ISSUE IF THERE SHOULD BE MORE ATTENTION FOR SECURING THE DB-SERVERS (THINGS ALREADY HAVE BEEN APPROVED, AUTHORISATION/PATCHES ETC. )**

**PS: YOU CAN START DESCRIBING THE BUSINESS-PROCESS AND REQUIREMENTS IN INDIA FOR IMPLEMENTING INTERSPEC/UNILAB V6.7. THIS KNOWLEDGE CAN BE USED TO IMPLEMENT V8 IN THE CLOUD.**

**PS: IT IS POSSIBLE TO LET INDIA-EMPLOYEES WORK IN ENSCHEDE GATHERING KNOWLEDGE FOR THERE OWN IMPLEMENTATION AND MAINTENANCE.**

**PS: THE WAY V8 WILL BE IMPLEMENTED IN THE CLOUD (BIG-BANG, OR A KIND OF SHADOW-PRODUCTION-ENVIRONMENT) WILL DETERMINE HOW LONG THE IMPLEMENTATION WILL TAKE AND WILL COST.**

**PS: infra-structure-issues like firewalls and authentication should be working.  
PS: alle client-server/interfaces with the database should be rebuild to a cloud-architecture. Like SAP/DWH en excel-interfaces**

There is also a 4’th option but in my opinion we should not consider that one.

That’s the one were you start v8 in APMEA and keep Europe on 6.7.

That will give us a situation where APMEA will be configured very differently then Europe, making a move for Europe to v8 later, much harder.

**And a 5th option:**

**Start implementing version 6.7 for India, in combination with employees in Enschede. Implement in parallel a pilot/test-environment in the CLOUD for v8. I think the there are laying the most challenges for us. The focus is on network/infrastructure.**

I am aware that I am giving you a lot of information in this mail and I am sure I even missed information.

I would request to have a meeting on this topic, first within IT, so I can explain further and we can plan a road forward for R&D.

Apart from that I wish you merry Christmas and a happy year’s end.

Best regards,

Patrick Goossens

Mijn idee:

1)migrate to oracle-19c. You have support and we are secure. And we have the possibility to use ORACLE-RAC if there might arise performance-issues in India using the terminal-interface. After that we can migrate to v8.

2)If we migrate to v8 immediately