

Professional PLM Initiative

Professional PLM 'No More Offshore' Forum

Summary Document

Version 1.0

15 November 2023

The *Professional PLM Initiative* held an on-line, workshop-style Forum on 08 November 2023 to discuss the relationship between PLM and the current 'Offshore' situation, and how the drive for a PLM Profession could generate improvement.

This document summarises the issues that were discussed and the ideas that were developed at the 'No More Offshore' Forum, and is for general dissemination.

Executive Summary

The *Professional PLM Initiative* aims to establish a formally-recognised PLM Professional Body that will raise PLM to the same level as other established disciplines.

A two-month consultation across the industry in 2023 resulted in the publication of a comprehensive White Paper in August. This acts as a definitive reference document for the aims and benefits of establishing true professionalism in PLM.

An on-line Industry Planning Forum in October, spanning 11 time zones, weighed up the possible options and best short-term approach for mobilisation.

One of the proposals was to run a further 'No More Offshore' Forum to examine the interaction between PLM and the economic landscape. This was held on 08 November.

The 'No More Offshore' Forum clarified the picture from the offshore point of view and generated significant new ideas for improvement. It dispelled the basic myth of the 'Offshore' perception by outlining the differences in PLM and in manufacturing economies. It also showed how the goal of establishing a PLM Profession will enable the balancing of PLM in a way that allows the onshore-offshore relationship to be neutralised or even reversed. It highlighted the potential of India to take advantage of this, and made proposals for an Indian PLM Centre of Excellence and an Academic Partnership that could make these effects happen.

All of that logic is contained in this Summary Document.

The summary of those discussions is presented here in order to stimulate further thought, and to encourage more PLM organisations and practitioners to join in with the activity of the Initiative.

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Introduction

As part of its discussions in 2023, the *Professional PLM Initiative* devised and ran an open Forum on 08 November on the inter-relationship between PLM (ideally a global discipline) and the 'Offshore' construct in manufacturing.

The current state of PLM is by no means as advanced as it should be, but if the drive towards a PLM Profession is successful then it will create a working scenario that could be characterised as "One Professional World". The impact of this on manufacturing may, or may not, be expressed as "No More Offshore".

Taking the latter as its title, the 'No More Offshore Forum' debated the issues and presented some very practical suggestions for leveraging professionalism in PLM for the good of those who teach and apply PLM around the world. This Summary Document sets out the findings.

It should be noted that the advance publicity for the Forum was international, with a readership of over 2000 PLM group members on LinkedIn, followers from 26 countries, and a multi-country mailing list. Nevertheless, all of the participants in the Forum were from India.

This may mean that the discussions were narrower than they could have been. On the other hand, it allowed a sharp focus on India's particular PLM situation, which led to the two major proposals set out later in this document.

Further information about the 'No More Offshore' Forum and about the Initiative itself can be requested via profession@professionalplm.org.

Workshop Agenda

The Agenda for the 'No More Offshore' Forum is shown below.

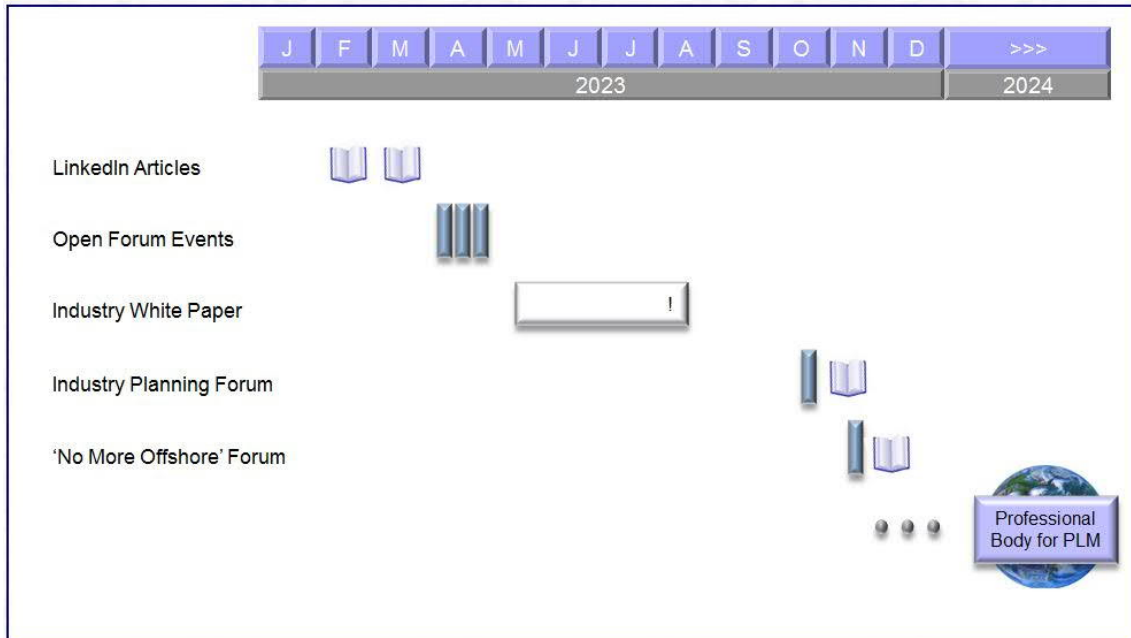


09:00 13:30 CET IST	Arrival / Login / Sound Checks	
09:30 14:00	Welcome and Introductions	
09:45 14:15	PLM Profession - One Professional World - Industry Planning Forum findings - global PLM harmonisation - impact on Offshore	PLMIG
10:15 14:45	Keynote Presentation: PLM and Offshore { T.B.D. }	{30 mins}
	Group Discussion	{15 mins}
11:00 15:30	Break	
11:15 15:45	Effects of PLM Unity on 'Offshore' - White Paper - High-level corporate benefits - benefits to individual practitioners - DASAMASA and the Economic Impact	PLMIG
11:45 16:15	Working Session - delegates' views - new suggestions - industry/geographic effects	Open Forum
12:30 17:00	Closing Discussion - Next Steps	Group
13:00 17:30	Close	

Timing for CET and IST was as above. There were no offers of Keynote presentations, so that time was absorbed for group discussion.

Timeline 2023

The 'No More Offshore' Forum was staged by the PLM Interest Group as the latest event in a 10-month programme of increasing awareness about Professional PLM.



The programme began with three 'Open Forum' half-day workshops in April. These covered three time zones on three consecutive days, and shared a common Agenda explaining the background to Professionalism in PLM and discussing its various possibilities and benefits.

The findings from these workshops were combined into a single Summary Document which led directly to the production of an Industry White Paper, which was published on 08 August. The White Paper stands as the definitive reference document for the aims and rationale of a recognised PLM Profession.

Within that framework there are several possible ways of moving forward. Therefore an Industry Planning Forum was staged on 18 October, at which the participants debated which is the best.

In doing so they came up with several useful new ideas - including an emphasis on providing some of the material and benefits of a future Profession in a way that can be useful here and now. One immediate benefit could come from examining the issue of 'Offshore' as it impacts PLM.

The 'No More Offshore' Forum, as described in this document, completes the 2023 programme.

The Industry White Paper; the Summary Document from the Industry Planning Forum; and this document can all be obtained from the *Professional PLM Initiative* web site¹.

¹ www.professionalplm.org

PLM and Offshore

History

For companies that use PLM, offshoring began in the 2000s with the development of CAD and PDM apps in Europe and the USA, and increasing internet usage in India. As PLM moved more onto the Web more countries came in scope, and India itself started to become a major hub for Engineering R&D.

The economic situation has become somewhat ossified, as have perceptions of which countries are 'Onshore' or 'Offshore' . There are now some political and logistical drivers towards improving the balance, but those are outside the scope of this Forum.

The discussion here is about the impact of Offshore on PLM itself, and the potential improvements in manufacturing if PLM improves in this area.

Cause and Effect

The phenomenon of 'Offshore' is an effect, not a cause.

Manufacturers in some countries choose to subcontract some of their design and manufacturing to other countries not because it is convenient or because of technical advantage: but because external economic factors create a price advantage.

Within any given enterprise, PLM is inherently global. Major corporations aim to have seamless product design, manufacture and support anywhere in the world. Smaller companies aim to become part of the global ecosystem in a way that transcends their physical location.

The more professional that PLM becomes, the more effective this is. If PLM were to establish a Professional Body, with its consequent standards of accreditation, certification and best practice, then Offshore would become an incidental side issue.

The Offshore Illusion

In PLM terms, Offshore doesn't even exist. It appears to, because of historic setups such as a three-pillar system of "In Situ | Nearshore | Remote", in which the high-level transformational decisions are made on-site, with design or consulting support close by and technical support in a different cheaper time zone - but these distinctions are arbitrary.

As far as PLM is concerned, there is only:-

"Live / Face-to Face" vs. "Everywhere Else"

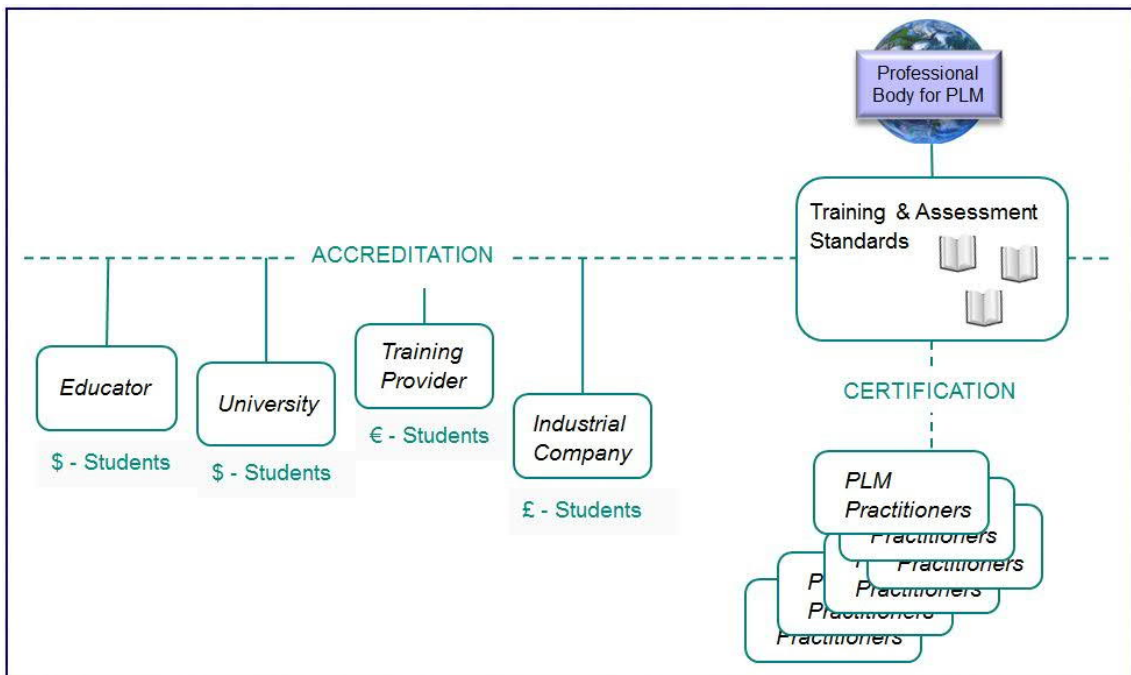
There is no denying the richer interaction, better communication and greater exchange of ideas that happens when people are live in the same room or building. As soon as email and webex are used, it does not matter if participants are 5 miles or 5 time zones apart.

So PLM is essentially a complex, fully-integrated mix of electronic information and remote collaboration enlivened by face-to-face interaction where possible.

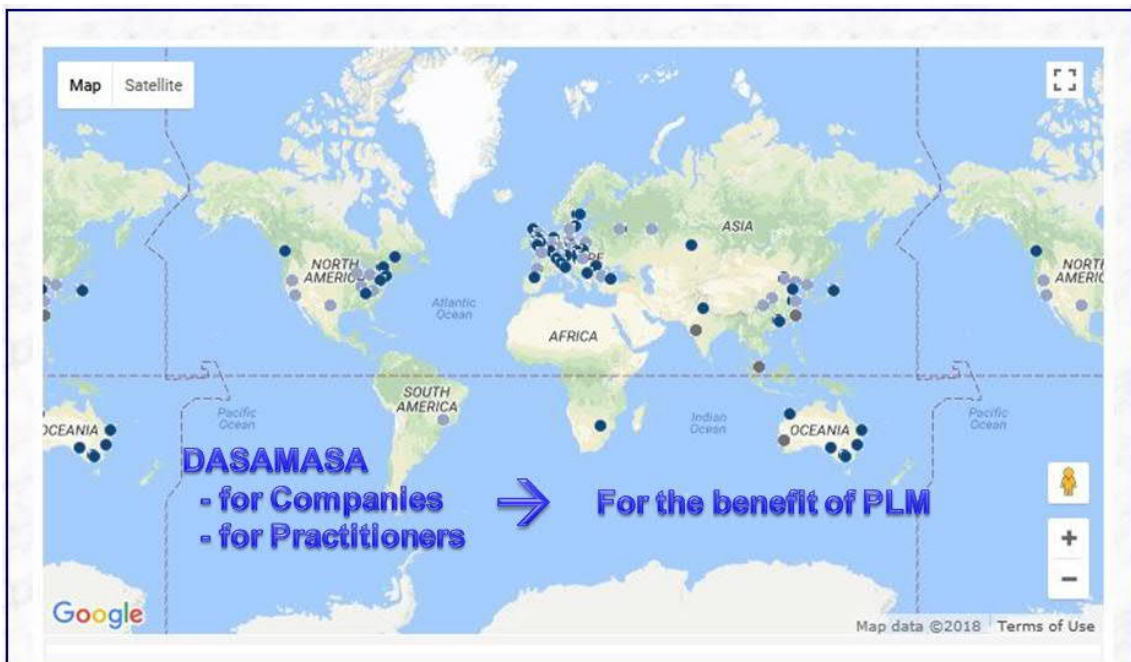
One Professional World

One of the themes of the *Professional PLM Initiative* is:-"One Professional World".

If a single Professional Body provides accreditation for training providers, and certification for PLM practitioners, then the practice and implementation of PLM will become harmonised globally.



This will enable companies to design and manufacture anywhere, and practitioners to learn and practice anywhere: which will improve PLM and, in turn, manufacturing around the world.



... = *No More Offshore*

From the PLM perspective, therefore:-

"One Professional World" = "No More Offshore"

These terms are more or less identical. PLM is universal - its truths apply everywhere that products are conceived and made. The drive for a PLM Profession will crystallise the skills and experience of PLM practitioners and the best practices they use, which means that everyone around the world can refer to and learn from them. The impact on Offshore is simply what happens when you think the logic through.

They are different ways of expressing the same idea, which is why the drive towards establishing a PLM Profession may have such an impact.

Opportunity

It is worth noting, back out in the world of global economics, that investing in PLM may be most productive in economies that are growing fastest - and some of the notional Offshore countries, including India, are doing just that.

This is another reason for abandoning the old-fashioned view of what is onshore and offshore, and focusing effort on building up PLM within countries such as India as an end in itself.

Where Is Offshore?

The *Professional PLM Initiative* is being followed by practitioners from 26 countries, as below.

<i>Australia</i>	<i>Czech Republic</i>	France	<i>Malaysia</i>	Spain
Austria	<i>China</i>	Germany	Netherlands	Sweden
<i>Brazil</i>	<i>Croatia</i>	<i>India</i>	Norway	<i>Turkey</i>
<i>Bulgaria</i>	Denmark	<i>Israel</i>	<i>Poland</i>	<i>Vietnam</i>
Canada	Finland	Italy	<i>Singapore</i>	UK

and of course:

USA

One might regard the countries in bold as 'mainstream' in PLM terms: Central Europe, the UK, the Nordics and USA/Canada are all highly advanced. But China and India are massive. Australia was in reach of the time zone for this Forum. Poland, Bulgaria and Turkey might feel they should be at the top table. Malaysia, Vietnam and Singapore are all interested in this.

Reversing the Polarity

A first objective, for PLM, would be to raise international standards to a common high level so that all of the countries in the table are "mainstream" and in bold type - and then permeate this so that the several countries not in that list are also embraced.

But this idea can be taken further. If the efforts to raise the standard of PLM in any given 'Offshore' country are truly effective, then that country may well become a leader and can permeate its expertise to the rest of the world.

The Potential of India

In theory this could happen in any of the non-mainstream countries, but India is a prime candidate. It has the industrial demand, and the latent technical expertise.

India can set out to lead the world, and teach the world about advanced PLM, not only becoming 'Onshore' in PLM terms and capability but going beyond.

This line of thought was extended to become the parallel concepts of an Indian PLM Centre of Excellence and a Academic Partnership for PLM, as described in the following Sections.

.../over

Indian PLM Centre of Excellence

The Real PLM Challenge

As one of the users at the Forum said: *"Our challenge is the PLM part, not Offshore"*.

He then went on to list a string of technical problems and related issues that were his real barrier to everyday progress, and called for standardisation in tools, methods and even nomenclature.

Other delegates joined in with issues of their own, the consequences of which can be far-reaching. A lack of training and a failure to grasp requirements management, for example, can mean a whole implementation achieving only what a particular individual happens to know, instead of what the business actually requires.

In the wider manufacturing ecosystem, large and successful corporations are acquiring smaller companies with their own PLM environments. The task then is to migrate and integrate, in a fragmented structure and in the face of embedded human resistance.

What India Needs

All of this means that India has a pent-up need for improved knowledge and expertise in PLM, with clear and visible best practices that everyone can see and follow - as would be instilled if a PLM Profession were established.

India also has the industrial base to build on. India has a huge manufacturing infrastructure with its corresponding base of PLM usage. Lots of organisations have R&D in India, and its technical resources are well-known. Demand for consumption is high, and the economy is growing.

An uplift in PLM implementation and level of excellence would be fuel for this growth, and this could be embodied in an Indian Centre for PLM Excellence.

Model for a Profession

This is not just a theoretical concept. At the moment the aim is to establish a Professional Body for PLM, because that is the conventional thing to do.

However, as PLM is a global discipline with a relatively small number of practitioners (compared to the millions of project managers, for example), there would only be one Body setting the standards for accreditation, certification and the body of knowledge.

If this were centralised, it would seem remote and irrelevant in many other countries, so it may need a distributed structure with effective internal coordination.

This distributed structure could be a 'Federation of Centres of Excellence', each active in and attuned to its own country, but global collaboration and governance. An Indian Centre of PLM Excellence would be an excellent model for this.

Academic Partnership

Future Accreditation

The accreditation diagram on Page 8 illustrates the challenge that lies ahead for academic institutions and training organisation.

Eventually it is to be hoped that such providers will, individually or collectively, provide the full breadth of PLM skills and expertise that a practitioner will need across the timespan of their career, as confirmed by the Professional Body.

At present, the scenario falls well short of that, so there is work to be done.

Education Gaps

Implementing solutions at lower cost brings Offshore into practice, but is a person qualified?

Many large-scale implementations start with the IT department, and fail because of limited or inadequate requirements gathering, so is the practitioner well-versed in this? Is the implementation exactly what the Customer needs, or limited to what he or she understands?

Top management think about investing to improve the business, but users can be reluctant, so the practitioner needs to understand things like optimisation vs. mass customisation.

Many important effects are 'post-PLM', and the main problem here is educating users for this stage. Most users and managers don't understand how to deal with issues such as legacy data. In general, people take it for granted that users will like what they have been given.

There are gaps between academia and industry in terms of what is taught and what is needed. If you are building a car or ship, you need to be able to see it functionally and digitally. Thinking from top-down is missing from students' training.

In general, the level of expertise and understanding amongst current graduates is insufficient for industry.

From School-Leaver to Fellow

Not only are there many detailed gaps, but there is a systemic lack of PLM education provision across a practitioner's entire career. It should be possible for school leavers to envisage and plan for a career in PLM, but how would they know? At university, PLM courses tend to be bolt-on modules, or a PLM-oriented MSc. Once in work, they face 12-18 months of "shadowing" more experienced colleagues until they eventually get up to speed.

It is fair to say that everyone today who has reached the fully-experienced level that would be expected of a 'Fellow' of a profession has done so by trial and error, and by learning on the job for many years. Proper education provision would mean that future 'Fellows' can advance through their careers by following a comprehensive and pre-planned programme of certified training.

Global Education Map

Before the pandemic, the *Professional PLM Initiative* started a discovery exercise to involve and highlight the training and education organisations around the world that provide courses for PLM students.

The aims were to develop a map of training provision and opportunities for learning; and then to highlight where syllabuses will need to be extended, and new courses created.

The methodology worked well, and academics found it easy to provide the template of information. The approach could be relaunched in the context of the Forum proposals, to create a virtuous cycle of global opportunities for students, and an ever-growing feed of new students into training.

Academic-Industry Collaboration

This represents a major global opportunity to make an impact on PLM, but it cannot be done by osmosis. It will need drive, coordination and determination.

There will need to be a formal project, led by academics and commercial educators, and coordinated by the PLMIG. As with the Centre of Excellence, India would be a good place to start.

It would need to start with a partnership of academic institutes, and there are Indian institutes teaching post-graduate courses in PLM. The partnership would need to collaborate with companies in order to define and develop the new material and structure.

An Academic Panel could provide high-level guidance, and support the detailed project work, with collective management and publication of the working material.

Vendor Integration

A further step forward would be for the major to join in this Academic-Industry collaboration in order to integrate use of PLM tools into the courses and show how to succeed with them.

In one sense this is a radical idea, and it will add another level of detailed project work, but it is not as proprietary as it sounds. In the real world, advanced PLM tools are indispensable, and even a best-practice method of adoption will be influenced by the particular tools that have been selected. PLM training must work in the actual job situation.

There is no reason why any or all of the vendors could not participate in this, in which case the common best practices could be shared and the tool-specific details kept separate. With several participating, overall neutrality would be maintained.

Next Steps

This Summary Document is intended to act as a reference point for the 'No More Offshore' Forum for as long as its findings remain relevant.

It should be read in conjunction with the Industry White Paper, which is the reference point for the overall aims of, and rationale for, Professional PLM.

As the Forum has made suggestions for further action, details of the follow-on discussions and actions will be covered by subsequent documentation.

Copies of the Industry White Paper, this Summary Document, and updates on all of the latest developments can be found and downloaded via the Professional PLM Initiative web site at www.professionalplm.org.