



GOVERNANCE OF AGILE SW PROJECTS · WHITE PAPER

## Flying high above the turbulence of typical software development projects



Govern your projects effectively using Cloud computing –  
with the KPI based Cockpit, the **pliXos Outsourcing Director**



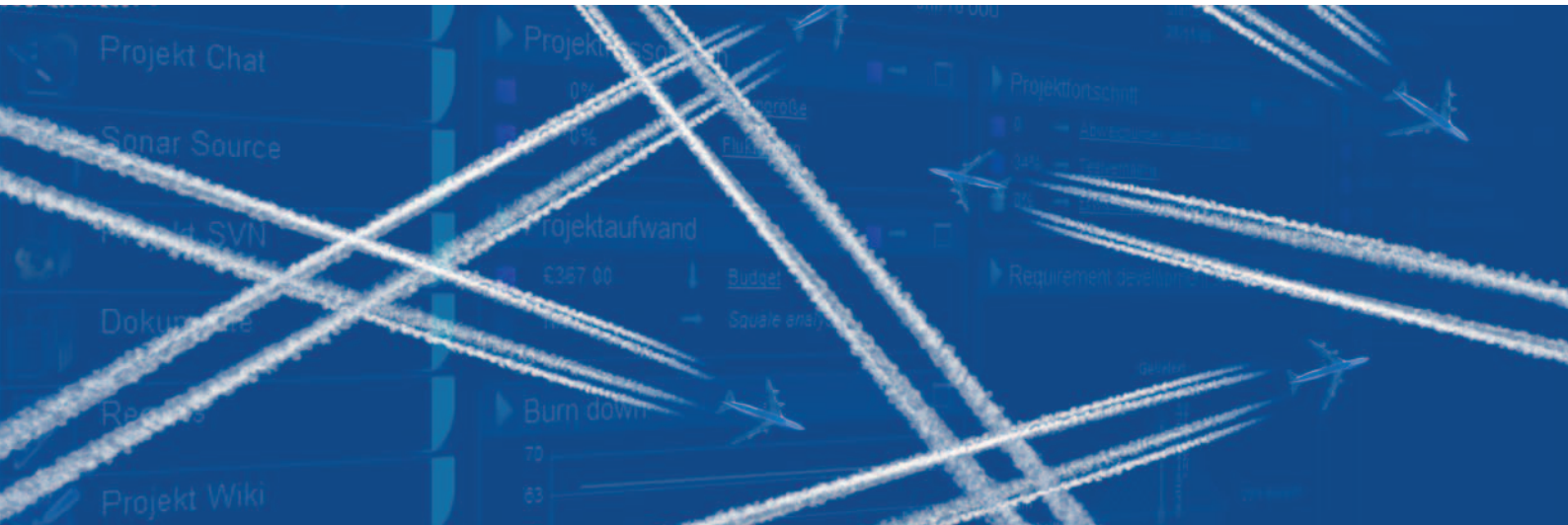


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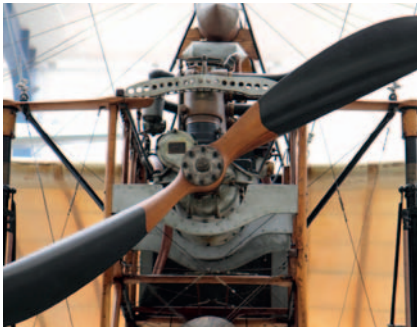
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## Summary

Experts see the central and highly optimised governance of multiple service providers – fully in line with customers’ requirements – as the future in outsourcing services delivery. Innovative Software solutions out of the private Cloud are essential for the successful delivery of “Multi-Vendor Management” or “Service Integration”. The pliXos Outsourcing Director provides total visibility and control over any application development project for the whole team – whatever their location.



## Objective



*Latest technologies, all-embracing processes and rigorous quality management – guaranteeing the highest levels efficiency and security, scalable to support large volumes*

The provision of software development and application maintenance by globally distributed teams (offshoring, nearshoring) is now commonplace in business. Initially the benefits of lower labour costs, improved scalability and increased synergies were obtained mainly by large corporations but are now increasingly enjoyed by small and medium sized business (SMEs) as well [1]. How do we realise the greatest benefits when working with external resources (service providers) yet manage the increased complexity it brings?

Several references confirm that realisable benefits include savings of up to 40% in project costs through global sourcing (offshore, nearshore) compared with similar projects delivered by internal and freelance contractor teams. Additional benefits also include significantly increased flexibility in the ramping up and down of development teams and accessibility to a much wider range of competences. Furthermore, comparisons of completed projects demonstrate that the use of outsourcing can substantially increase the quality of delivery [2].

The implementation of a software project to quality, budget and time is already a major undertaking potentially made more even more complex when using globally distributed teams to deliver them. Some of the typical implementation challenges faced may be addressed through implementing agile methodologies (e.g. Scrum). On the other hand agile methodologies themselves impose new constraints [2]. One example is that, compared to classical approaches, agile development requires greater effort for the ongoing quality assurance already being undertaken during the Sprints, which could negatively impact the overall business case particularly if this additional effort has not been accounted for when the project was set up. Agile development heavily relies on alignment between, and direct communication within, the teams involved. Prerequisites for maximising the benefits from agile development therefore are excellent communication and internal governance within the teams involved. Tools supporting communication and governance are vital.

The objective of the approach presented in this White Paper is to demonstrate that all companies, large corporations as well as small and medium sized enterprises, can maximise the benefits of software development or maintenance delivered by globally distributed teams through the support of transparent automated communication and governance tools.



## pliXos solution

### pliXos vision – automation and standardisation (“industrialisation”)

The main drivers for globalisation including the cost benefits from labour arbitrage, higher scalability and flexibility of resources are now commonly accepted and have been documented regularly. The authors of this report have a vision for the industrialisation of IT services built upon division of labour, specialisation and most importantly using standardisation and the highest possible levels of automation.

Despite the fact that software development or application maintenance is a creative process requiring manual interaction, major parts of the overall process can be industrialised [3, 4].

### pliXos product – The Outsourcing Director

The pliXos vision is to offer all companies the benefits of globally distributed software projects through standardisation, automation and a low cost of entry.



### *The Outsourcing Director – “Software as a Service out of the private Cloud”*

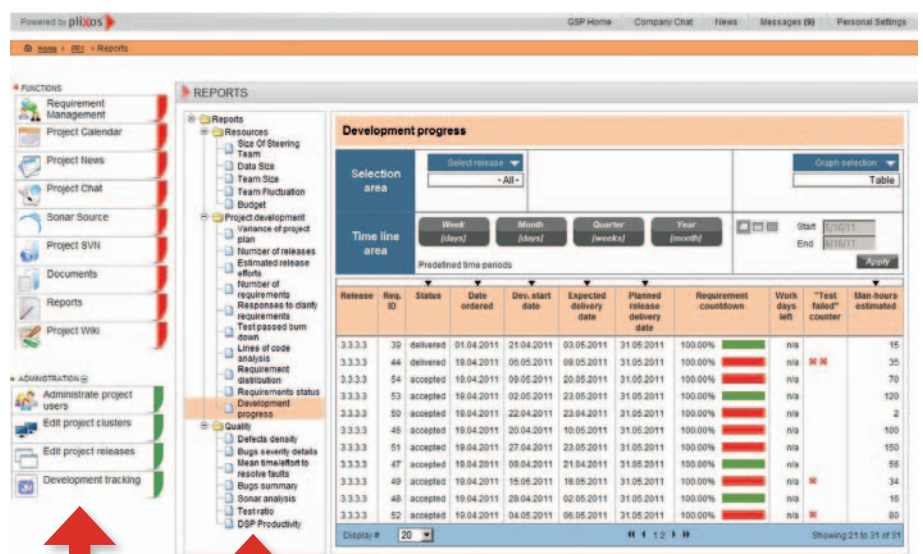
Outsourcing Director provides automated reporting of a standardised system of Key Performance Indicators (KPIs) allowing transparency on the project’s actual status, ensuring the identification of any upcoming issues, enabling potential options to be considered as countermeasures and flagging any potential for optimisation at an early stage (“KPI based project-cockpit”).

The Outsourcing Director integrates all the functions necessary for the successful implementation of application development projects:

- A rigorous requirements management facility, including a clear and definitive process for the definition of requirements, their evaluation, release and final order
- A clearly laid out project plan
- The integration of a well established tool for “bug tracking”
- An integrated Software versioning tool (“source code repository”) which also acts as an interface for customer or project specific development environments
- A comprehensive set of collaboration tools to optimise team communication. This includes chat, news, Wiki, etc.
- A document management facility providing a highly structured administration of specifications, reports etc.
- The integration of multiple, well established and highly innovative tools for software quality assurance throughout the project. This quality assurance capability includes support for common languages such as Java, C, C++ etc. as well as SAP ABAP.
- Planning, implementation and evaluation of tests
- The automated generation and graphical presentation of comprehensive structured reports covering the topics that would typically be expected according to the role of the actual user logged in. These include:
  - Size of the overall project, the governance team or individual service providers
  - Discrepancies with respect to the planning in time, effort, budget etc.
  - Status of all requirements, overview concerning quality of deliveries, status of tests etc.
- A configurable management dashboard specifically designed to provide the executive management (e.g. CIO) an easy overview of all projects, including a drill-down functionality for details
- Burn-down charts for forecasts and trend analysis as is standard in agile project management



Successful projects:  
Essential functional activities  
and comprehensive reporting  
– all from a single source



Comprehensive reporting with further drill-down functionality

Complete set of well established tools optimised for management of global Software projects

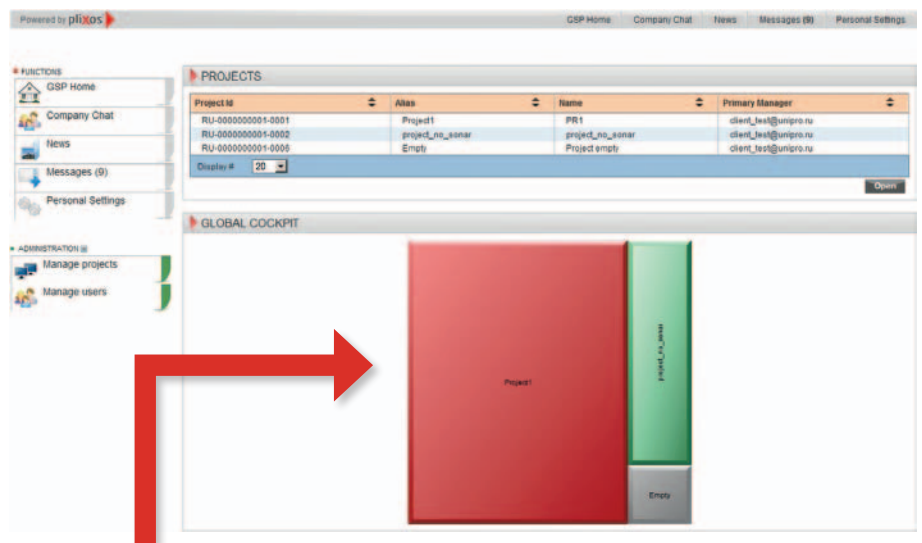
The substantive value proposition of the Outsourcing Director is its comprehensive, automated and transparent reporting which has been developed in close cooperation with experienced end user customers.

The project manager obtains an up to date, factual status and can focus his/her efforts on actively managing the project and the “people aspects” which are the most important factors for a project’s success. The accepted neutrality, accuracy and the clarity provided by the KPIs presented by the Outsourcing Director, ensure that unproductive discussions on the mechanics of the actual progress and status of a project are a relic of the past. The customer and the service provider can then focus their attention on any issues and discuss ways to solve them immediately.

At the same time all participants in a project benefit from the single sign-on to an integrated suite of functions doing away with the typical need to log in to five or more separate systems (requirements management, effort tracking, quality management, document management, chat, wiki...) to support their activities. It provides a structured approach and a comprehensive set of functions supporting the process and outcomes from a single resource. Knowing that all the activities will be documented and traceable and that the correct distribution lists as well as hierarchical structures are already built into the system will often lead to a more disciplined way of working immediately. This is a significant advantage in particular in case of a globally distributed environment (offshore, nearshore).



*Simple and effective –  
overview of all projects for executive  
management/the CIO*



*Freely configurable “CIO cockpit“, e.g.  
Size= Project volume (GBP), Colour=Quality, Time delays etc.  
Full drill-down functionality*

Customer’s executive management, e.g. the CIO gets an up to date, easy to understand descriptive, intuitive and flexibly configurable overview of all projects. If needed a full drill down function provides further levels of detail.

The value proposition for the user includes:

- Instant set up as Software as a Service out of the private Cloud, global access, no upfront investment needed
- Single sign-on, comprehensive security, traceability of activities for all team and team members as part of the standard reporting
- Complete multi tenant concept, support for multiple projects as well as multiple service providers

- *Rigorous requirements review and confirmation process support facility*
- *Continuous project progress monitor, including a full drill down for detailed reports*
- *Comprehensive reports for a continuous, neutral and up to date view of project status including past trends and early warning indicators*
- *Highest level of cost efficiency and transparency through automation*
- *Providing the perfect base for Benchmarking between different projects or service providers*

### Loyalty Partner Solutions specific Implementation

#### Automatic KPI-cockpit for project governance

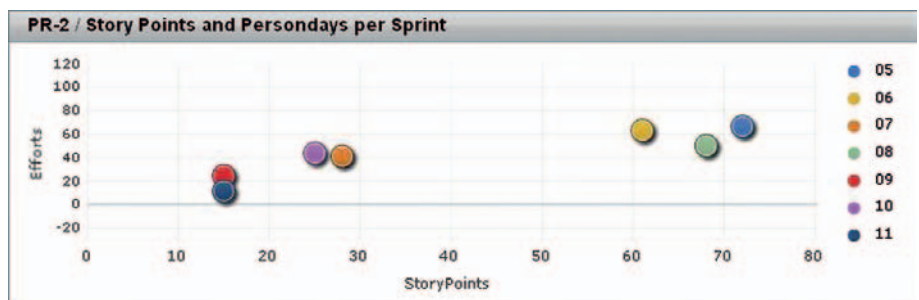
Loyalty Partner Solutions GmbH (LPS) has successfully deployed agile development using Scrum for several years. As part of a substantial and strategic offshore project, pliXos designed a set of relevant Key Performance Indicators (KPIs) which were included as part of the contract with the service provider. These important KPIs covered the commercial aspects (9), the service provider relationship & collaboration (5), productivity and quality aspects of the software development services being delivered (8) [7].

Automated KPI reporting process which originated from the Outsourcing Director concept collects the parameters required across the systems installed at LPS. The KPIs are calculated regularly and automatically presented to LPS staff. The service provider is granted an online access to their relevant subset of the KPI reports.

*Example for one parameter of the LPS KPI cockpit:*

*Progression of productivity (result of Story Points per resource (effort) in Person Days) gathered across the development cycle (agile Sprints).*

*The presentation provides an evaluation of the evolution of the service provider's productivity over time ("learning curve").*



The KPI cockpit specifically designed for LPS offers a set of specifically designed, directly relevant and meaningful KPIs. Those range from simple analysis such as

- *Automatically calculated costs vs. actually invoiced costs per month in Euro. (The direct comparison of the monthly invoices from the service provider with the values expected by multiplying the actual effort logged in the systems with the agreed day rates per roles).*
- *Distribution of costs per month in Euro: Offshore vs. Freelance consultants vs. Internal staff*
- *Distribution of resources per month in person days: Offshore vs. Freelance consultants vs. Internal staff*
- *Distribution of resources per month per role: Development, quality assurance, administration etc.*
- *Onsite – offshore ratio of the whole team or of the service provider*

to complex analysis of the productivity of the offshore teams, the internal staff or the overall project set up. Examples of such analyses include

- *Productivity in “Story Points per Sprint” (“Velocity”) in relation to the actual extent of tasks completed (developed, tested, closed and resolved etc.)*
- *Productivity Analysis e.g. “Story Points per Person Day per Sprint”*
- *Comparison of initially planned productivity (high level as well as low level) vs. that actually achieved in User Stories per Sprint*
- *Analysis with regards to the distribution of efforts in Sprints with relation to the User Stories in Person Days*

All the results are available online via web browser and are presented graphically in an intuitive way. Direct comparisons and trends over a defined period of time provide helpful insights and enable effective management of the project in real time.

### **Comparison of projects and service providers with the KPI cockpit (“Benchmarking”)**

Several offshore or nearshore service providers deliver application software development projects to LPS. To enable ongoing improvement for all such projects and to assist with future strategic decisions, such as the potential for vendor consolidation, a comprehensive dataset of relevant information is necessary. The KPI cockpit provides exactly this information.

Currently the following parameters are collected to enable a meaningful direct comparison between different projects:

- *Discrepancy of planned vs. actual costs for each phase of the project*
- *Productivity in form of Story Points per Person Day*
- *Price/performance ratio in form of cost per Story Point*
- *The planning effort per agile Sprint*
- *The Velocity in form of Story Points per Sprint*
- *The fluctuation of the offshore team strength in a given period*
- *Technical parameters regarding software quality are taken automatically from common tools in an automated way*



The nature of projects being considered varies widely. Thus base parameters definitions used together with any normalisations to ensure comparability have to be verified thoroughly. Having selected the appropriate parameters with the normalisations verified accordingly, many helpful insights into the projects and significant opportunities for optimisation have been achieved.

The automated KPI cockpit has proven to be an ideal mechanism for neutral benchmarking of projects, facilitated by the clearly laid-out presentation of trends and the continuous collection of numerous parameters.



## Conclusions

Agile methodologies such as Scrum offer significant advantages when delivering software development projects. The focus on results combined with experiences resulting from industrialisation techniques, and the lessons learnt from successful software projects in large commercial organisations can lead to even further benefits [5, 6, 8]. An example of this is the improved effectiveness in the management and control of projects by building upon the automated KPI based cockpit.

The major advantages of this approach are:

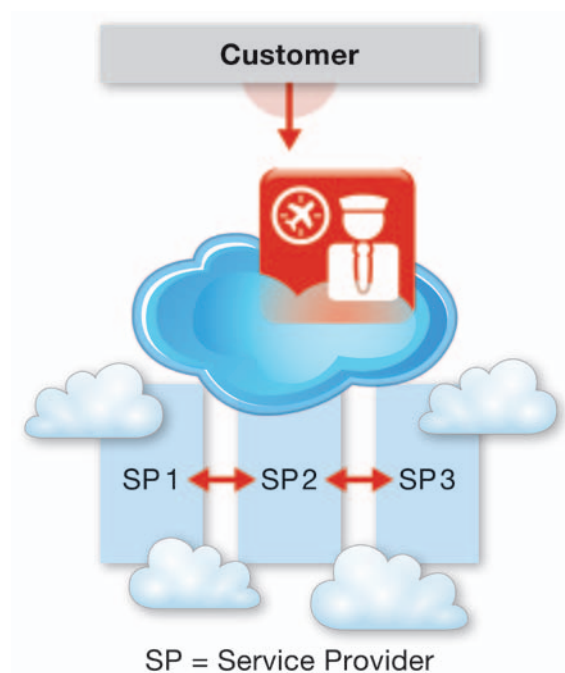
- *Reduction in efforts and costs for coordination, governance and integration of distributed teams*
- *Increased transparency on costs*
- *More efficient processes*
- *Up-to-date information and extensive options for analysis due to continuous and automated gathering of the base parameters*
- *Simple but effective means to ensure adherence to security guidelines, quality standards etc.*
- *Instant availability, no cost or time intensive preparations required*
- *Suitability for large corporations as well as small and medium sized enterprises (SMEs)*
- *Neutral consistent data collection and presentation, comparability of the data and the option for customers to conduct internal or external benchmarking between projects and service providers*

The approach described offers large corporates as well as small and medium sized enterprises the opportunity to turn challenges in their software development projects to competitive advantages.

### Tools to support Vendor Management / Multi-Sourcing

Leading IT research analysts have been observing a substantial increase in the professionalism of customers' sourcing management [9, 10, 11]. One of the outcomes of this increased professionalism is the ability for organisations to optimise the management of different service providers, sometimes called "Vendor Consolidation" or "Service Integration".

The provision of successful Service Integration as efficiently as possible will be greatly facilitated by the automated provision of KPIs, as part of project governance. The pliXos Outsourcing Director enables the unified management of different service providers and projects and at the same time offers comparisons between them. It provides the ideal basis for Vendor Management. In addition, it facilitates customer's ability to switch from one service provider to another or to add an additional service provider with the minimum of effort.



*Automated Vendor Consolidation /  
Service Integration using a central Cloud based tool*

### Benchmarking of software projects or service providers

If a number of customers of software development projects can agree on a common set of KPIs to compare their projects, which are consistently applied and the required base parameters are measured accurately, an automated collection and calculation of those KPIs can provide valuable insights and pointers to improvements. The KPI cockpit described above provides just such a mechanism for delivering a comparison of different projects and service providers (or teams) which is independent, neutral, reproducible and meaningful. The information obtained is further enhanced by the collection of data over long periods of time.



## Outlook

Software development is not immune from the general industry trend towards industrialisation of processes. This will have a significant impact how projects are implemented and will offer new opportunities and improvements, especially for small and medium sized enterprises. The increasing standardisation of individual work packages will enable specifications to be classified satisfactorily, with well defined external interfaces for inclusion in service catalogues. In the situation where those interfaces have consistently defined quality and performance parameters comparability is ensured. The simple benchmarking of service providers, their specific work packages as well as the ability to substitute them will be major outcomes. These developments are likely to result in a major increase in overall productivity. In reality, this will truly be part of the industrialisation of software development.

The approaches and tools described in this paper will provide higher transparency of both service providers, as well as their projects overall. Some parties involved might not be happy with this initially. However, in the long term, the positive effects they deliver on both quality and productivity will surely convince all parties involved in the industry.

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## The companies



The pliXos Global Sourcing Platform provides solutions for the optimisation of all phases in a distributed software development project. At the core is the Outsourcing Director which is a standardised and centralised entity for significantly improving the control and management of projects delivered through geographically distributed teams. In addition, pliXos offers bespoke consulting services including taking over responsibility for the management of projects or the provision of support. pliXos' competence is based on longstanding experience from conducting numerous successful outsourcing projects, from the customers as well as service providers perspective.

[www.plixos.com](http://www.plixos.com)



Loyalty Partner Solutions GmbH is your partner for intelligent customer management. We develop and operate professional customer loyalty programmes based on customized IT solutions. Our solutions and services are tailored to the specific needs of the retail and the travel & transportation sectors. We have set standards as the IT service provider for PAYBACK, Europe's largest bonus programme. Millions of transactions are carried out each day on the IT platform we have developed. Having developed and operated this technology for several years now, we have built up an unrivalled expertise that we also use to the benefit of customers such as emnos and Deutsche Bahn. To bring you closer to your customers, we offer all our services from a single source – including consulting, development, implementation and operation of customer management solutions and the execution of complex CRM processes.

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