



The ultimate IIoT and Big Data platform

nexusintegra

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Nexus Integra is an open and standard industrial system integration platform that is able to generate a global operational and monitoring framework for the management of large-scale industrial assets. With its powerful three-layer structure Nexus Integra platform gets to manage all the data generated by the company and display them in the most intuitive way, always adapted to the client's needs.

Designed with the purpose of allowing an integration and use of open data, with no restrictions and no limitations, by the ownership of these data as well as any other actor that may be interested in interacting with them.

Features



Standard, organize and unify data

Nexus Integra ingest data from all industrial machinery, corporate systems and databases which are dispersed and unstructured and it is responsible for standardizing and unifying them, this allows companies to exploit them in a standard way.



Nexus Integra uses open-source technologies to develop its product

Nexus Integra is based on open-source technologies and free standards. The main engines of the databases on which the core is articulated are PostgreSQL and MySQL. The architecture of the platform has been developed on Microsoft.NET and offers a wide and flexible open API Rest that allows a total interaction with the platform.

The support for the OPC industrial standard is totally guaranteed, allowing the configuration for data acquisition that comes from equipment or systems that offer OPC UA interfaces or, the oldest, DA, HAD or AE. Integration mechanisms through the API allows the management of bridges between the data sources through ETL tools, without any need for advanced programming knowledge. Connectors have been developed to facilitate the integration with external tools of Business Intelligence, like QlikView, Tableau or Microsoft Power BI. It has also enabled a SW component for advanced algorithmic modelling and machine learning based on Python that allows linking the platform with the Jupyter Notebook framework.

Nexus Integra has a web interface based on HTML5, supported natively by all existing browsers and platforms.



Web public API Rest

Nexus Integra platform has vertical connectors, these connectors work with a public web API Rest that establishes a communication channel through which solution developers, who have developed applications based on Nexus Integra platform or who have developed their own solutions (ERP, SAP, MES, OEE, PMS), can extract and feed back the data-core, for example, to satisfy the need for information demanded by machine learning applications or algorithms among other things.



Web access interface

Nexus Integra is a web-based tool allowing users, that are registered, accessing to all functionalities of the platform through a web interface, wherever users are.



100% configurable by users

We know that thanks to the web-access interface users can login on the platform wherever they are, next step is that these users can configure the screen layout of the platform to adapt it to their needs. With Nexus Integra they can do it. Users can create connectors, variable views, BI dashboards, synoptics, alarms and reports. In addition, these users can share all this information with other users. So, each user can get use of the data in the way that provides the best information. This provides complete autonomy to the user who doesn't need to have programming knowledge to set its own view platform.



Real time and historic data

With Nexus Integra platform users can choose the variables they need to control and set the frequency they want to visualize the output. They also can decide the variables they want to store to show later in reports or graphics.

They can combine them to generate some KPIs of their interest, too. This allows users to know at any moment the real state of their assets and review the historic data to make the best decisions. This also helps the managers to improve their knowledge about the company.



Manage a great quantity of assets in a single screen

Thanks to the web access interface, the ease configuration by the users and the intuitive framework, Nexus Integra allows users to configure personally their screen view. First of all, with Nexus Integra users can visualize in a world map all plants that they have integrated. Once the user click on any of that plants, they can create a SCADA view (using a Canvas module) of their plant layout with a simply drag and drop, showing the variables they want to control; set alarms; make reports; and create graphics or KPIs.



Integrate the data from a wide variety of assets, systems and databases

Nowadays companies have a lot of assets (sensors, control elements, SCADAs), corporate systems (ERP, SAP, MES, OEE, CMMS) and databases as isolated sources of information. Nexus Integra allows companies to integrate all this scattered information that they have in a unique platform that can be consulted in a simple way.



No need to have programming knowledge

User friendly interface of Nexus Integra enables users to easily manage the platform. Every user can easily and directly create new variables lists, create new connectors, set alarms, configure BI dashboards, combine variables creating KPIs, design 3D SCADAs, among other things, in an easy and fast way. The tabbed browsing of Nexus Integra platform makes simple the navigation through the folders and files to change or visualize everything user wants.



Global operational and monitoring integrated framework

When users log in Nexus Integra platform, the first they can observe is the home screen. This home can be configured by themselves and they can include on it all they want to see in a glance without browsing folders, for example, the user can configure some widgets to visualize the most relevant information like cell performance, OEE and alerts. Once user has seen the home can navigate through the different modules to expand the information, these modules are known as CANVAS, BI dashboards, alerts and reports.



Remote manage and control

Nexus Integra goes from connectors that acquire the data to Nexus Apps which are vertical applications that use Nexus Integra as data core to feed themselves and feed-back the data core with new data. Nexus Integra platform is not only that, users or algorithms can use the information revealed by data to actuate in a remote way directly on the assets if they need it, for example, stop a machine because Nexus Integra has notified an alert.

Benefits



Based on open-source technologies

Nexus Integra platform is completely based on open-source technologies:

- ▶ Nexus Integra platform is developed in well-known programming languages, platform is developed in commonly known programming languages, in particular, the C language is used for the access layer and data management, that is, for the engine, while those languages such as JavaScript, TypeScript, HTML and CSS are used for the presentation layer to the user or interface.
- ▶ The main engines of the databases on which the data-core is articulated are PostgreSQL and MySQL.
- ▶ The architecture of the platform has been developed on Microsoft .NET and offers a wide and flexible open API Rest that allows a total interaction with the platform.
- ▶ The support for the OPC industrial standard is totally guaranteed, allowing the configuration for data acquisition that comes from equipment or systems that offer OPC UA interfaces or, the oldest, DA, HAD or AE.
- ▶ Integration mechanisms through the API allow the management of bridges between the data sources through ETL tools, without the need for advanced programming knowledge.
- ▶ Connectors have been developed to facilitate the integration with external tools of Business Intelligence, like QlikView, Tableau or Power BI of Microsoft.
- ▶ It has also enabled a tool for advanced algorithmic modelling and machine learning based on Python that allows linking the platform with the Jupyter Notebook framework.
- ▶ Regarding the access to the system by users, Nexus Integra has a web interface based on HTML5, supported natively by all existing browsers and platforms.



Interoperability with third-party systems (ecosystem)

Nexus Apps layer with its public web API Rest allows interoperability with third-party solutions. With this standard communication these apps can import Nexus Core data to exploit them and refeed the core with the results they obtain. No need to have programming knowledge.

All apps can live together in one place, Nexus Integra. It is possible because all the data that these integrated apps generate are stored in Nexus Core, thanks to that these apps work connected and have completely interoperability.

Nexus Integra creates an open ecosystem, know as Nexus Ecosystem, of tech solutions applicable to any scope.



High and easy scalability to rapidly increase business results

Once your business is integrated with Nexus Integra platform it is very easy to scale it.

Nexus Integra unify information from different processes providing scalability with no additional investments. This scalability will help you to reduce your business costs: up to 70% reduction in the price of developing new SW applications; 20% cut in maintenance costs; 15% reduction in energy costs.



Unifies and standardizes data from different sensors, systems and databases

Nexus Integra ingest data from a lot of different assets, for example, common sensors, IoT sensors, databases and corporate systems like ERP, SAP, MES, CMMS among others. With Nexus Integra all these data sources communicate in the same language. Nexus Connect is responsible for standardize this unstructured and disperse information by using defined industrial communication standards.



Unique framework to manage all installations (web → is portable, web access interface)

At Nexus Integra platform home screen users can visualize in a glance all installations the company has around the world. Then user can select which one want to observe and control.



Unique license with no additional costs

When companies decide to integrate their assets with Nexus Integra our technical team go to their installations and evaluate what is the better way to introduce Nexus Integra to extract all the potential of the data. Once our technical team sizes the project, our business team sends to the company an offer that include the price of setting-up Nexus Integra. Then companies can scale the project without additional licenses or costs.



100% Customizable platform & user friendly

Nexus Integra is 100% customizable by users. You can adapt the Nexus Integra framework to production changes, with no additional costs.



Flexibility to adopt new processes of continuous data

Nexus Integra provides flexibility to grow together with your business with no any additional licenses. New assets can be easily included in the platform thanks to the User Configuration Modules.



Interoperability and vendor agnostic platform

Forget being tied to your Hardware/Industrial equipment. Nexus Integra guarantees interoperability with main industrial manufacturers: Omron, Rockwell, Siemens, KUKA, ABB, Schneider, among others.



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