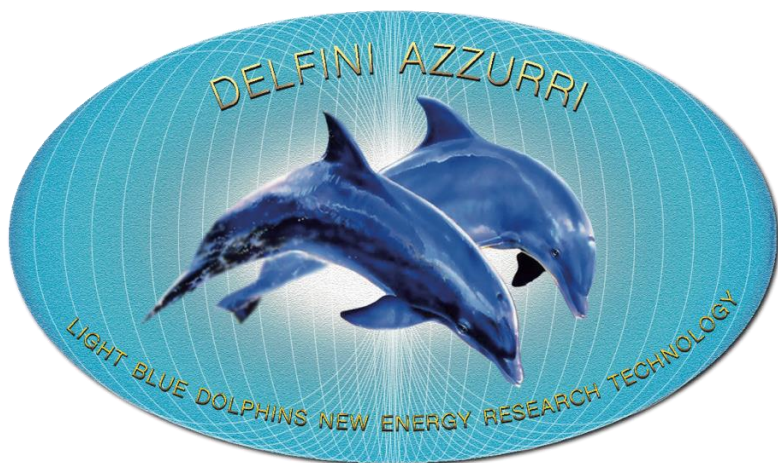


Light Blue Dolphin S.r.l.

NEW ENERGY RESEARCH TECHNOLOGY

Controllo impianti FDL Megatron diagnostica e monitoraggio remoto by LBD 3.0



LBD risolve i problemi da remoto assicurandosi a sistemi efficienti di ditte specializzate d'avanguardia nel mondo quali Siemens, delegando a sistemi di servizio ed assicurativi al fine di salvaguardare ogni ditta che utilizzi sistemi tecnologici implosivi FDL Megatron e annesse periferiche di sistema.

Ogni apparecchiatura, grazie al suo supporto continuo disponibile grazie alla soluzione cloud integrata, consente il monitoraggio a distanza dei parametri fondamentali dell'impianto elettrico.

In particolare vengono monitorate quelle grandezze elettriche che permettono di valutare il corretto funzionamento delle parti vitali dell'impianto.

L'andamento grafico delle grandezze riportate su cloud, unitamente ai dati storicizzati, permettono di valutare la continuità dei servizi attivi e, ove presenti, la produzione degli impianti di cogenerazione .

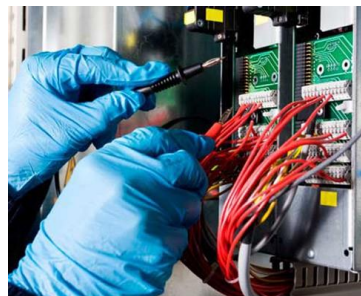
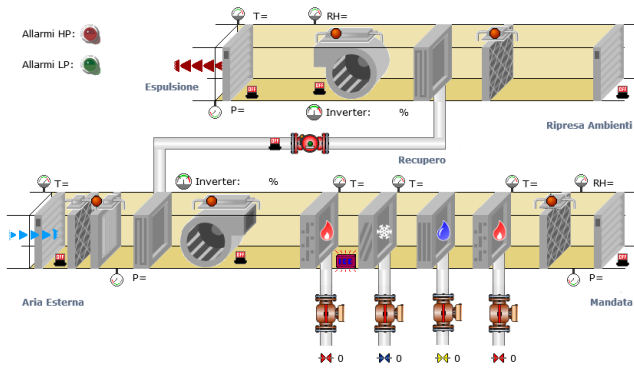
Particolarmente utili le informazioni su funzionamento degli impianti a forte discontinuità nell'ambito di un presidio molto limitato e destinato ai servizi essenziali, al fine di garantire, speriamo molto presto, una ripartenza senza inconvenienti.



Per “gestire” analiticamente e/o praticamente le grandezze periodiche, sinusoidali o distorte, i matematici, i fisici e gli elettrotecnici hanno sviluppato molteplici teorie, più o meno complesse e rigorose, e molteplici indicatori sintetici. Trattazione fondamentale è sicuramente quella di Jean Baptiste Fourier, il quale ha dimostrato che un segnale periodico a valore medio nullo e avente frequenza f può essere considerato composto da una somma di sinusoidi: una senoide con frequenza f (la componente fondamentale) e le altre con frequenza multipla di f (le componenti armoniche).



Unità Trattamento Aria: SCHEMA di FUNZIONAMENTO - Stato ON/OFF: ●





LBD may use robotic systems...

Industrial robots and associated control methods are continuously developing. With the recent progress in the field of artificial intelligence, new perspectives in industrial robot control strategies have emerged, and prospects towards cognitive robots have arisen. AI-based robotic systems are strongly becoming one of the main areas of focus, as flexibility and deep understanding of complex manufacturing processes are becoming the key advantage to raise competitiveness. This review first expresses the significance of smart industrial robot control in manufacturing towards future factories by listing the needs, requirements and introducing the envisioned concept of

smart industrial robots. Secondly, the current trends that are based on different learning strategies and methods are explored. Current computer-vision, deep reinforcement learning and imitation learning based robot control approaches and possible applications in manufacturing are investigated. Gaps, challenges, limitations and open issues are identified along the way.

Keywords:

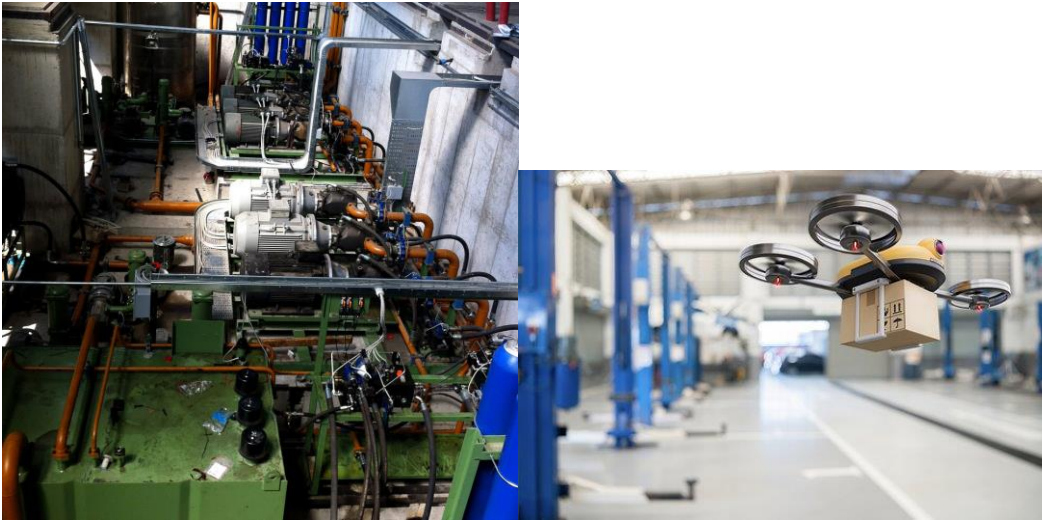
smart industrial robots; cognitive robotics; computer vision; reinforcement learning; imitation learning; synthetic data; simulation; smart manufacturing; future factories; artificial intelligence

Industrial robots and their control methods have come a long way since their first appearance in manufacturing [1]. The essence of industrial robots is to automate repetitive, dangerous, heavy-duty, and resource-intensive, tasks, etc., and eventually to automate human-intelligence demanding tasks. An industrial robot is defined by ISO 8373:2012 as follows: “An automatically controlled, reprogrammable, multipurpose manipulator programmable in three or more axes, which can be either fixed in place or mobile for use in industrial automation applications...”



The use of industrial robots in manufacturing and industrial facilities continues to rapidly evolve. According to a November 2020 Reportlinker report, industrial robotics is the top robotics segment and expected to grow from \$76.6 billion in 2020 to \$176.8 billion by 2025, a compound annual growth rate of 18.2 percent. This

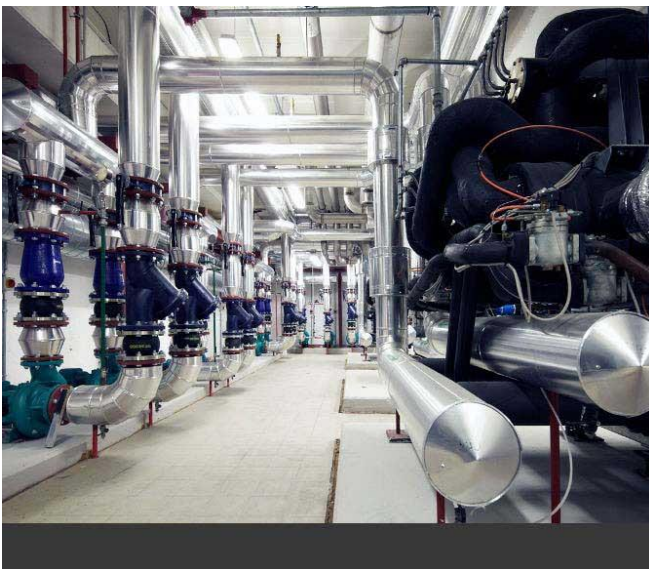
growth is driven largely by manufacturers that plan to use robots to counter the looming skills gap, especially for material handling tasks.



Whether it's the control of process plants, the optimized operation of public facilities for water/wastewater treatment, energy distribution, or traffic monitoring, with the TeleControl Basic system you can implement simple applications and large projects with up to 5,000 stations. The TeleControl Basic system uses TeleControl Server Basic in the control center as an OPC server. The software connects the HMI system (such as WinCC, PCS 7, or WinCC OA) to the Remote Terminal Units (RTUs). The system supports modular RTUs based on SIMATIC S7-1200 and ET 200SP as well as the compact SIMATIC RTU3000C RTUs.

Everything under control – from a distance

Industrial organizations across the globe are striving to keep their workers and communities safe and healthy and also contending with the full range of effects — to the economy, to their supply chains and their operations



Discover our tele control portfolio, including products, systems, and solutions for the control center, for Remote Terminal Units (RTUs), and for their connection via private and public remote networks.

Cleverly combined: Existing tele control using a modern controller

Expansion of an existing tele control solution in a water protection area using modern controllers

Control and on-site operation of the pumping stations with a SIMATIC S7-1200 controller and a SIMATIC touch panel

CP 1243-8 IRC communications processor enables tele control applications based on SINAUT ST7 and connects the controller to the control center

Solutions with savings potential

Energy consumption in raw material extraction optimized – thanks to the installation of a power economizer

The power economizer is monitored and controlled by a tele control system

Data are sent to the Tele Control Server Basic tele control software using the CP 1242-7 communications module

It is safe to say there will always be conflict among the members of an organization when it comes to trying something new. This conflict often comes to light when new technology is introduced, such as remote-controlled equipment. It is easy to imagine the difference in opinion of early adopters, who love anything digital, and the group holding out for months until they are finally forced to try it, because the latter faction is often afraid the technology might replace them. The reality is that using wireless, remote-controlled equipment can help contribute to a safer work environment, less fatigue on the body and measurable increases in production. Therefore, it should appeal to a diverse workforce.

Equipment & Technology

Before discussing the benefits of using remotes, take a minute to explore the technology. In the concrete construction industry, wall saws and wire saws were some of the first machines to use radio remote controls for operation. Now, demolition robots, surface preparation grinders and core drills can all be operated remotely. Some manufacturers have taken the technology from radio frequencies and/or cords and have evolved the products to use cordless, Bluetooth technology. This enables more responsive communication from remote to machine. It also enables the operator to stand farther away while still in full control of the operation.

It is important to mention that on some Bluetooth remotes, the Bluetooth feature can be turned off for projects in areas that are sensitive to radio transmissions, such as hospitals and nuclear power plants. Wireless remote control systems can be run directly using a CAN-cable to complete communication between the remote control and the machine.

Safety

The use of a wireless remote control eliminates the need for the operator to be in direct contact with a running machine. This means the operator can position themselves in a safer manner, farther away from moving parts, harmful dust, noise and vibration or falling debris that may occur. Operating by wireless remote control also allows the operator to move more freely, enabling him/her to gain the best viewpoint of the work being performed. This is common in the demolition robot world. The operator can send the robot into a dangerous environment, such as a

furnace or hanging from a crane. The machine is taking all the risk, while the operator is located in a safer location.

LBD si avvale di ditte internazionali prestigiose per il controllo remote dei nostri impianti FDL MEGATRON