Machine vision is pervasive in industrial applications since the early years of automation, with decades of success stories associated to a variety of relevant tasks like quality control, robotic pick & place and AGVs. With respect to general purpose computer vision, industrial machine vision is characterized by a more structured environment stronger constraints in terms of real-time image processing, robustness, and reliability. With the advancement in sensing and computational resources we are experiencing in the last years, we see potential for further automation in industry providing new opportunities in many fields of research. While the interest is extremely high from industrial stakeholders and academic industrial engineers, witnessed by many events like forums and exhibitions, there is no dedicated event within the academic computer science community. As a result, we experience an unprecedented misalignment between the hot topics in major computer vision conferences and the actual industrial needs. In this Industrial Session we will bring together researchers and practitioners in industrial engineering and computer science interested in industrial machine vision to overview the state of the art and identify the most interesting research lines. We welcome contributions involving traditional and non-conventional vision (e.g. IR and X-ray), visual inspection, real-time computer vision, 3D reconstruction and vision for robotics, augmented and virtual reality, etc..

A joint session for ...

Researchers
... to show recent advancements in research projects on industrial applications and new technologies suitable for industrial environment.

Engineers
... to bring an applicative point of view on the state of the practice in industry and take inspiration for their use cases.

Manufacturers
... to present the state of the art on technologies and case studies, and challenge researchers and practitioners with open problems.

Companies are welcome!
Companies can contribute to the industrial session either with scientific papers and/or with a demo booth to show their applications. Demo booths for funded research projects are also available.

Topics of interest

- Unconventional vision systems (depth sensors, IR, X-ray, etc.)
- Robustness-oriented vision algorithms
- Real-time machine vision
- Embedded vision systems
- Tracking and tracing humans and goods
- Vision for robotics
- Vision for health and safety
- Transfer learning and domain adaptation
- Deep learning for advanced machine vision
- Anomaly detection and process monitoring
- Quality assessment and visual inspection of non-trivial objects
- Augmented/Virtual Reality for Human-Robot cooperation
- Augmented/Virtual Reality for Training and Maintenance
- Lab & Inline quality control
- Geometry processing

Position papers presenting new industrial systems and case studies, possibly reporting preliminary validation studies, are also encouraged.

For more information please visit our website http://vips.sci.univr.it/events/ICIAP-Industrial or contact us by email (francesco.setti@univr.it)