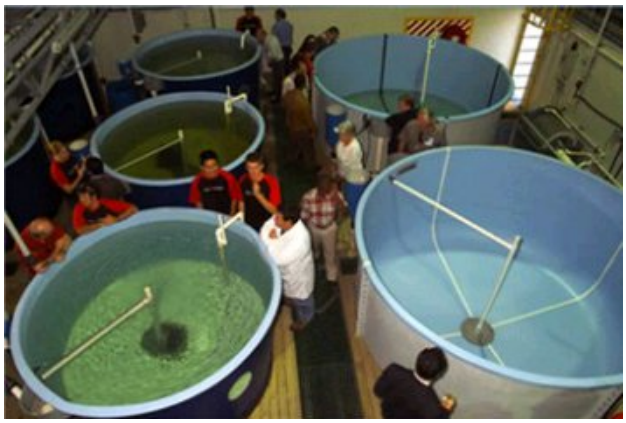
Case Study: Curtin Aquatic Research

The new $2M Curtin Aquatic Research Laboratories (CARL) is located in the Technology Park research facility, an external facility of Curtin University, Western Australia. It offers the rare opportunity for emerging aquatic scientists and researchers to complement theory with hands-on experience. CARL brings the fields of aquaculture, resource management, seafood science and aquatic ecology together under one roof. Here, cutting edge research into intensive aquaculture methods and standards will reap significant rewards to the industry and provide specialist consulting opportunities for the University.



This is a multi-use facility. The CARL facility monitors such things as:

- Fish reproduction in varying pH and temperature ranges
- Cleanliness of water to activate or increase/decrease water filtering/flow
- Fish activity based on amount of feed released in tanks
- Safety of stock (if oxygen levels decrease the fish will die)
- Ammonia levels to measure amount of unconsumed feed

Remote cameras are used as instructional tools for showing fish swimming in their natural habitat as well as under different temperatures, what fish types are present.

All data is stored automatically in the GPAC System™, a unique browser-based software platform that allows data logs and notes areas for analysis and automated use in research reports. Using the GPAC System™ allows the University to engage both local and remote researchers' participation in the research project. Using cameras means a researcher elsewhere can actively participate as well as have access to the ongoing research data.

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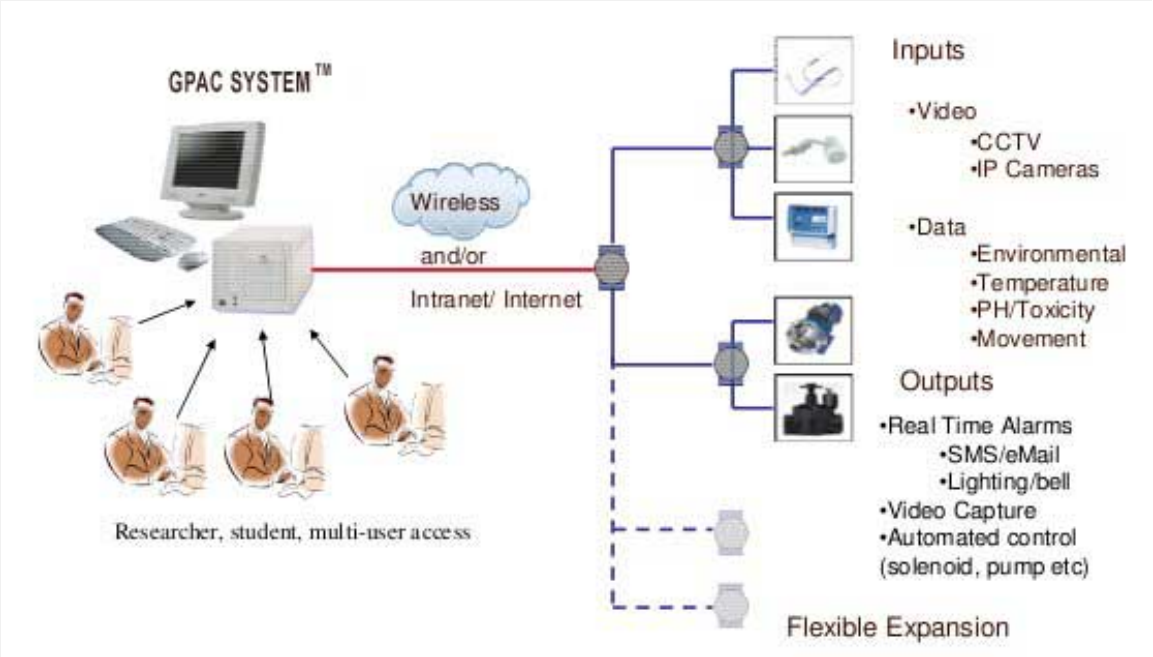

The output of this research will include the development of models for use by the industry in how to successfully grow a viable crop with all environmental conditions well understood and documented. The same technology can be applied to both life science and physical science research.
The use of the GPAC System™ has greatly reduced the workload in data collection and increased the accuracy of data available to the team by removing rekeying errors and double handling. With 24 hour automated monitoring, more extensive and accurate data is captured and available for analysis. The acknowledgment by the WA Fisheries Department that CARL represents a "biosecure" aquatic facility, in effect making the labs a benchmark for keeping exotic aquatic animals in Western Australia.
The GPAC System™ is also used by the Australian International Gravitational Observatory as well as the WA Department of Fisheries for research based monitoring and control of research projects.

Why the GPAC System™?

ETCorp's GPAC System™ is a unique software platform that allows remote monitoring and control of any fixed or mobile camera or device. Real time video and data can be securely accessed from a standard web browser either on a computer or mobile phone, from any chosen location. Data is automatically logged and an audit trail created on the GPAC System™ database. The system was used by the University to comply with research and process control standards and quality assurance methods.

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- Easy to expand for other sensors and actuators
- Totally flexible for incorporating new sensors into research activities
- Automated alerting and action response
- Audit trail of sensor and video activity

Use of the GPAC System™ greatly reduces the time wasted manually capturing research data and re-entering into a database. This ensures data integrity, protection of IP and frees up participants for thought leadership. Operators can access and modify setup and add/remove devices without specialized expertise.