

## Final Report Summary

### Development of a Prototype CCTV System for Taxis



**Cabtvate Ltd**  
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Cabtvate have successfully developed a flexible product which remotely updates audio-visual content to digital screens situated on public transport. The product provides passengers with entertainment as well as up to date information to ensure the engaged audience have an improved travel experience. The system is currently widely used in taxis in Edinburgh, Glasgow, Manchester, Birmingham and Bristol. Significant market expansion is predicted and several export opportunities are currently being explored.

Cabtvate have identified an extension to their product offering via a CCTV product which will improve the safety of the drivers and passengers in taxis. Based on two cameras, one to monitor the front section of the taxi surrounding the driver and the other for the rear section containing the passengers. In the event of an incident a panic button would be pressed, and an alert transmitted plus a compressed data package containing images from both of the cameras captured prior to the panic event and after. This would utilise a wireless GSM/GPRS link to the taxi company's base, Cabtvate and/or the police.

#### Project Aims

Cabtvate chose iSLI as TTOM partner based on its in-house knowledge of camera system development and experience in system level integration of complex hardware and software components. The aims of the project were to perform:

- Investigation into sub-system requirements for the dual-camera system.
- Development of a CCTV hardware interface to Cabitvate's current system.
- Specification of an appropriate image compression and encryption method suitable for wireless transmission.

#### Project Outcomes

The transfer of iSLI expertise in to this project has enabled Cabtvate to successfully accelerate the development of their CCTV system. After investigating various hardware options, a colour camera was selected which has the advantage of operating effectively in very low light conditions down to less than 1 lux, without additional illumination. A prototype system was built and initial tests performed within a taxi to assess performance, which had excellent results. Suggestions for suitable system software, data encryption, mounting options and viewing angles were provided taking into account optical, environmental, regulatory and legal issues. In addition, the TTOM project has helped the iSLI build a strong relationship with Cabtvate upon which to base future collaborative work.

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