

# Efficient Government Fund

## Stage 1 Application – Expression of Interest

### Part 1

Bid number (for EG use)	
Lead bidder	<p>Central College of Commerce          Peter Duncan – Principal          Tel: 0141 552 3941          Or          Fares Samara on 271 2138  <a href="mailto:Peter.Duncan@central-glasgow.ac.uk">Peter.Duncan@central-glasgow.ac.uk</a></p>
Brief description of the aims of the project	<p>Further Education Colleges handle and process extensive data from many different clients and also with a limited number of external agencies and stakeholders such as SQA, SFEFC and SAAS. This project aims to remove duplication, particularly with data entry, not only inter but also intra institution. It aims to harness existing web based technologies, bringing data closer to the individuals the data represents, providing secure individual access to individual data, in order to facilitate electronic data transfer, data sharing and integration leading to a more efficient FE sector. This multiple partner project will bring significant benefits not only to initial partner colleges but also to the sector as a whole through: greater standardisation; the adoption of best practice; process simplification; the replacement of paper-based systems with electronic systems; joining up across business boundaries.</p>
Clear description of what the EGF money would be used to buy	<p>This business transformation and technology project aims to enhance and deploy an existing working solution across the sector. The main heading costs are:</p> <ul style="list-style-type: none"> <li>➤ Staff time in the partner colleges</li> <li>➤ Consultancy support</li> <li>➤ Software / Hardware for partner colleges</li> <li>➤ Technical Training in partner colleges</li> <li>➤ Staff re-training arising from changed processes.</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Ayr College</li> <li>➤ Reid Kerr College</li> <li>➤ Langside College</li> <li>➤ Falkirk College</li> <li>➤ Cumbernauld College</li> <li>➤ SFEU</li> <li>➤ SQA</li> </ul>
Names of other organisations with whom the project has been discussed (to assist the introductions process)	<ul style="list-style-type: none"> <li>➤ North Glasgow College</li> <li>➤ Cardonald College</li> <li>➤ James Watt College</li> <li>➤ West Lothian College</li> <li>➤ Glasgow Metropolitan College</li> <li>➤ John Wheatly College</li> <li>➤ Barony College</li> <li>➤ Anniesland College</li> <li>➤ Kilmarnock College</li> </ul>



Evidence that suggested approach has been deployed successfully elsewhere	The project aims to deploy an existing working solution at Central College and share it across the sector. The original solution funded by a SFEFC Strategic Initiative had samples of the solution (up to 7 Modules) deployed in 22 colleges throughout Scotland. An independent evaluation of the SIF project, conducted by ESYS on behalf of SFEFC, praised the approach and the original project team has been retained.				
Are there any restrictions to potential for enlargement of the project (i.e. technology, number of partners etc)	This project has potential to move towards a national approach. The solution currently available is partially deployed, and can be fully deployed easily in over half of Scotland's FE Colleges, those operating a specific MIS system (Supplied by CAPITA ES). No equivalent solution currently exists for the rival MIS system deployed in the remaining Colleges (Supplied by SITS). Stage 1 funding can be used to investigate and estimate potential expansion of the project to address both MIS systems, giving 100% coverage. Long term sustainability can be achieved through the development of a sector wide Shared Service. Practicability issues can be developed during the stage 1 funding period.				
Benefits projected from the project (other than cash or time)	<p>This proven solution removes the need for data duplication, entry and re entry. In using a 'single data capture approach' to provide data life cycle management from enquiry to enrolment and certification it provides better customer experiences and produces intra-institution efficiencies. Longer term the data needs of external agencies will be embedded producing standards based data sharing protocols providing a sector wide service that leads to inter-institution efficiencies. Future benefits from a sector wide solution can lead to a single point clearing house type approach to all FE clients using a dedicated web portal providing shared IT services across the sector. The momentum generated by this project will encourage further system integration.</p> <p>Specific outcomes :</p> <ul style="list-style-type: none"> <li>• simplification and standardisation of processes for enrolment, admission and matriculation across FE colleges</li> <li>• streamlining data entry through single capture whenever possible</li> <li>• other agencies impact by ensuring the data integrity between FE providers and Qualification Providers (SQA), funding agents (SFEFC) and Student Awards Agency for Scotland (SAAS).</li> <li>• Modernisation of back office operations</li> <li>• access to and visibility of data for clients and other stakeholders.</li> </ul>				
<b>Estimated financial projections</b>	<b>Total</b>	<b>2005/6</b>	<b>2006/7</b>	<b>2007/8</b>	<b>2008/9 (23 mths)</b>
Overall project cost	£ 1.26m	£ 100K	£ 360K	£ 300K	£ 500K
Estimated projected benefits (average £46 K pa per college)	£ 2.3m	0	£ 230K	£ 598K	£ 1.472m
Number of Colleges	<b>16 Colleges (min)</b>	0	5 Colleges	8 Colleges	16 Colleges
Enrolment Cost Saving per College	admissions – no pre printed stationary, no data entry staff costs (12K pa), reduction in error processing (~ 10K pa), royal mail costs (online applications) (~ 1K pa), reduction in staff hours for manual enrolments & payments (~ 5K pa) total 28K pa.				

Attendance Recording Cost Saving per College	Reduction of key entry staff by 1.5 FTE staff (~18K pa) numerous unquantifiable cost savings associated with ease of reporting
Is a pilot required	A pilot only required if the software were to be expanded for Colleges currently operating SITS software to give a sector wide solution..
Additionality: why is EG funding required	To share the developed solution fully in all participating colleges. Central College of Commerce is the only college currently using all 7 modules.
Is this project complementary in anyway to other EG work	The project is complimentary to a proposal from Reid Kerr College, which contains systems to allow Publish Course Information Data. Adding the course information system supplied by Reid Kerr for students to find a suitable course on-line, would allow applicants to progress from enquiry through to final enrolment using this project.
Is "stage 2 development funding" requested?	Yes, to develop further the proposal. In particular to : Develop the financial model Conduct readiness audits Evaluate the most efficient organisational structure Work with other agencies for mutual electronic data transfer (SQA, SFEFC & SAAS)

## Part 2: Narrative Bid

### 1 Introduction

This proposal emanates from existing work undertaken by Central College of Commerce. FE needs to undertake business transformation to its cumbersome administrative processes through the appropriate deployment of technology solutions. This involves deployment of an existing fully functioning proven solution across the wider sector which processes largely similar transactions. The key thinking is the use of proven technology to create efficiencies for the whole Scottish sector. Many of the existing vendor solutions are not designed with the exact needs of the Scottish Education System let alone the needs of SFEFC and SQA. As a result, there is always a mismatch between solution providers and Scottish FE needs. This project aims to address this difficulty directly.

Technology advances. Eprocessing is common if not expected practice. Customer expectations are high and increasing with the prevalence of technology solutions in many aspects of life, yet a new prospective student to many colleges is still asked to complete a minimum of three forms by hand and a student could well use the services of more than one FE College during a lifetime of learning. This project addresses the concept of collecting data initially for one purpose and using it in a wider integrated way.

FE Customers should be able to

1. Apply Online possibly only once to multiple potential providers leading to extensive efficiency savings'
2. Monitor the stages of the application Online (acknowledge, interview, offer, final offer etc.)
3. Enrol Online
4. Pay Online
5. Access Individual Record Online
6. Agree and establish Personal Learning Plans Online
7. Monitor Attendance Online
8. Submit data alteration notifications Online
9. Access Learning Materials
10. Access Appropriate and selected Learning Resources
11. Data transfer through the use of common identifiers e.g. SQA Scottish Candidate Number

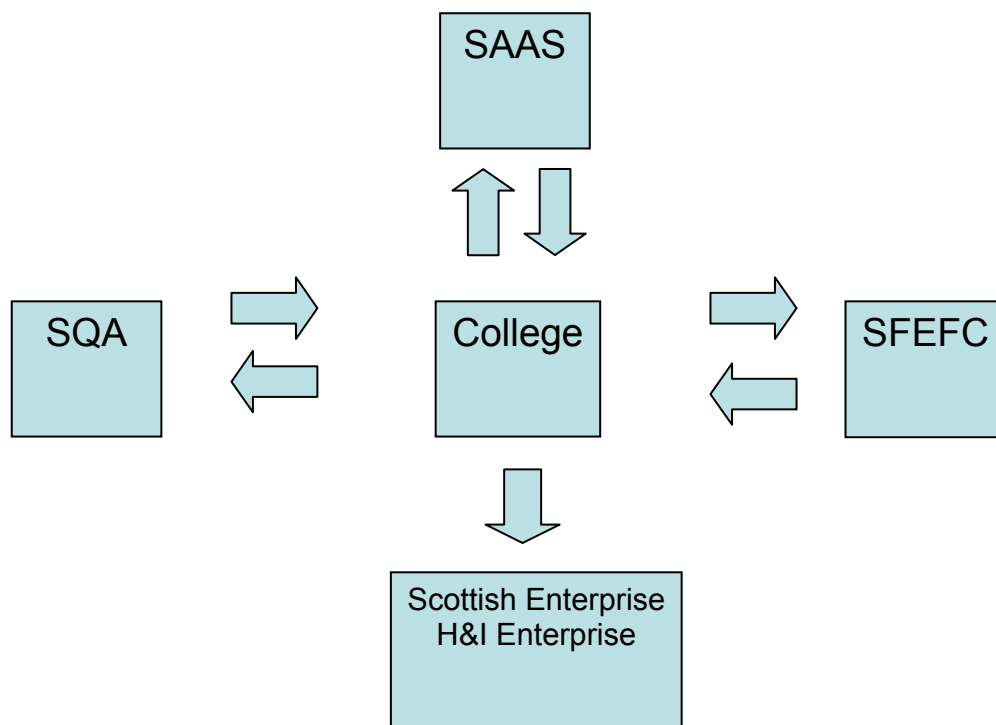
**These among other Data Life Cycle Facilities will be enabled through the adoption of an existing solution across the sector.**

## 2 College Benefits

- Data obtained from elsewhere
- Error levels reduced and rectification costs reduced
- Key entry costs reduced
- online management of college
- Tailored to each college's local management
- Learner ownership of progress and achievement
- Real time financial information
- Real time student count information
- Aid school/college/university partnership

## 3 Data Flows

Data entry in Colleges and other agencies can be reduced by utilising to maximum potential electronic data transfer between institutions.



## 4 Current Availability of Modules

	Enquirer				Enrolment		
	Students, Courses Units Basic Modules	Applicants	Attendance Recording	TimeTable Links	WEFT (Part Time Transactions)	ID Cards, PDF FT Enrolments	Enrolme (With Integrated Payment Gateway)
Central College of Commerce	☑	☑	☑	☑	☑	☑	☑
Ayr College	☑	☑	☑	☑			
Red Kerr College	☑	☑					
Langside College	☑	☑	☑			☑	
Falkirk College	☑	☑	☑	☑			
Cumbernauld College	☑	☑					
Glasgow College of BP	☑	☑					
Glasgow College of FT	☑	☑					
James Watt College	☑	☑					
North Glasgow College	☑	☑					
Barony College	☑	☑					
John Wheatly College	☑	☑					
West Lothian College	☑	☑					
Borders College	☑	☑	☑				
Cardonald College	☑						
Kilmarnock College	☑						
Annesland College	☑						
Lauder College	☑						
Tife College	☑						
Dumfries & Galloway College	☑						
Inverness College	☑						

## 5 Additional Narrative Information

### 5.1 Overview

At Central College of Commerce, we wished to utilise information efficiently with network and web technologies to provide better management tools for managing the College. Attentive to the advances in technology, and sensitive of the increasing demands of an aware Scottish public, we adopted a strategic view to utilise aspects of the WWW in order to maximise the benefit for staff and students. We wanted open access to, what can only be described as massive amounts of data (some 12 years worth) essential to the smooth running of an FE institution stored in legacy database systems. The intention was to move data to the desktop, to get the data closer to those who need and use the data.

From a Strategic Development Project the College devised two themes **ENQUIRER** and **ENROLMENT**. The Enquirer theme for prospective students to select programmes was developed into a tool for : the selection of courses or past student information; searching and processing applicant data; recording and monitoring student attendance; and linking timetables to students and the basic course information. The Enrolment theme for online enrolment was developed into a tool for: web based enrolment and financial transactions; remote enrolment and payment; and in college enrolment and ID capture.

### 5.2 Strategic Innovation Fund (SIF)

In 2001 the Scottish Further Education Funding Council (SFEFC) launched a Strategic Innovation Fund from which Central College of Commerce was one of eight colleges to received funding. This was used to develop a number of web-based products. Originally the project had Online Enrolment & Enquiry as a title. The project was collaborative in nature and had the Bank Of Scotland as an interested commercial partner. The BOS were at the time developing secure Internet payment gateway facilities and our project was seen as a useful project to test their developed technologies.

### 5.3 Original SIF Project Objectives:

- The development of an online enquiry system based on the national database of learning opportunities with views at college and area level, providing a clear information base for academic guidance (supported and self-led)
- The development of an online enrolment system based on the above database.
- The development of a secure transaction server closely integrated with a major clearing house system (partnership secured in principle with Bank Of Scotland)
- The development of an integration strategy for the introduction of the developed system into college operation and administrative procedures
- The development in at least one college of a detailed implementation plan reflecting the developed integration strategy
- The implementation of the developed online enquiry and enrolment system.

Secure payment processing were provided by the Bank of Scotland for the first year and then by World Pay.

### 5.4 Products

- **ENQUIRER** the web enabled enquiry system has been available to Central College of Commerce staff since June 2001. The software, in a variety of versions, was delivered as a solution in a box to 17 FE colleges throughout Scotland who will benefit from these proposed further developments. The web portal allows access to various bits of information delivered in a controlled fashion to the user's desktop. Enquirer is a presentation layer of software that extracts data from backend database systems and delivers the data to the user from a single easy to use interface. Irrespective of the location, style, presentation, configuration and technology of the backend system, Enquirer presents the data to the 'authenticated' user desktop in a uniform easy to use manner. A single authentication allows 'a grid based approach' to service delivery, users only accessing what they are authorised to access. The 'Authentication & Delivery Layer' inherits the controls, security and rights restrictions imposed by individual services which are applied to users as they authenticate to the 'OneService'.
- **'ENROLME** the web enabled enrolment system widening access to learning opportunities has just completed its **seventh** 'live' run. The portal, developed to facilitate enrolment for Saturday Morning classes, allows students to enroll online including payment, fully integrated and secured initially by the Bank of Scotland Internet Payment gateway and latterly by World Pay. This technology has proved effective with a total of 1500 transactions completed online. An average of 33% of all Saturday Enrolment transactions have been completed using this automated portal. Additionally this software is used with a dedicated fulltime interface to allow prospective students to complete their individual enrolment. The software permits students to use web cam technology to capture their own picture whilst completing their own enrolment process using data previously captured at the application stage. The software is equipped with various error checking and control facilities meeting the need of FES data collection and control. This software generates individual PDF based enrolment forms together with students pictures permanently stored on the database. Their visual identification together with unique identification numbers are printed on individual student "matriculation" cards. The data is linked to the library system allowing student's access to the Learning Resource Center with all its facilities and resources. This facility has meant a radical change in the way in which induction processes are handled allowing more time to deal with individual guidance for funding support and other related matters.

All data captured during the enrolment process, is instantly available in the form of summary reports for the Management Team to monitor and control. This captured data is also available to the wider staff through **Enquirer**.

- **Attendance recording** system is fully functioning with a master register, access to absence monitoring and graphical representation of overall attendance details. Data is used in ESF claims and in student bursary calculations. All teaching staff use a facility provided through **Enquirer** to access their own timetables. This provides a quick and easy link to class registers. Teaching staff now use the facilities provided to enter attendance data during each teaching session. The system handles some 300 registers per day with individual members of staff entering attendance data daily with an average of 20 students, giving 6000 rows of data to be managed every day. Being able to monitor closely patterns of attendance allows staff to identify and support “at risk” students.

Previously administrative staff entered attendance data into the system using the provided interface, leading to delays between data capture and data recording. From Sep 2004, all teaching staff have been using the dedicated interface to enter their own class registers online. Attendance data is transformed into practical user timely reports using the **Enquirer** interface relating to individual and group attendance statistics. Guidance tutors and course leaders access this real time attendance information on a regular basis to aid student support.

- **Enrolment tool** is fully functioning for Full Time students. 2250 students used the developed software interface during the Aug 2004 enrolment period with all electronic enrolment forms stored in PDF format in the student database. This software is fully integrated with: network user account creation using Novell technologies; the generation of class registers; student identification cards; and access to the library database. This product now uses web cam technology to allow each student to capture their own ID picture, which is stored and accessible through Enquirer. Full Time enrolment has been transformed from an awkward slow and cumbersome operation to a slick smooth well functioning one in which students enjoy taking part.
- **Time Table** viewer is also fully functioning, giving access to staff, course and location data through a web browser, providing room search and booking facilities. This data is integrated with Enquirer delivering unique staff timetables and linked to attendance recording and monitoring software.
- Quick address lookup facilities are incorporated in 'ENROLME' the postcode database ensuring that any new data capture is accurate and correctly formed. Expertise has been developed to extract postcode data from purchased original 'raw' post office data, representing a saving of £15K at Central College of Commerce. This database has been incorporated in 'ENQUIRER' and an exception report is available detailing postcode errors in the database. The project extension period would allow investigation of the possibility of offering this postcode lookup facility as a web service tool for all FE colleges.

The project team is flexible and able to deliver tools covering new requirements to the desktop. For example, as a result of a recent audit report a new way of dealing with student withdrawals has now been introduced.

## 5.5 Network Connectivity

To benefit from a greater availability of information it has been necessary to have 100% connectivity to the network/internet. Teaching staff have access from individual PCs placed at their desk. Every classroom (including practical rooms), meeting room, boardroom is equipped with permanent overhead technology, connected to audiovisual resources and to the network/internet.

The availability of software tools to manage the learning process combined with the infrastructure to carry the data to the desktop has proved effective and is now embedded at Central College of Commerce.

## 5.6 Benefits

- Opening access to data stored in legacy database system has been transformational, getting the data closer to the people who need to use it. The goal is to provide a better service to our students and to provide quick and accurate answers to legitimate requests for information. By moving the data closer to lecturers and course leaders significant progress has been made. Processes are continuously evolving and transforming of our business.

- Decision-making is now based around access to real-time information delivered with ease to the user's desktop. Managers access live information aiding decision making.
- Strong links with a number of colleges as a direct consequence of this project have resulted. These partnerships in a resource-restricted environment allow the sharing of skills, products and expertise.
- A number of web-based tools and software solutions are currently shared with some 17 colleges throughout Scotland. 12 colleges have chosen this year to contribute financially towards product maintenance, indicating that there is a particular need in Scottish Colleges.
- Further tools are developed continuously for smooth institutional management of the driven by user needs and business requirements.

## **5.7 External Evaluation**

The project has been externally evaluated by ESYS on behalf of the Funding Council. The external evaluation acknowledged our approach to dissemination as 'best practice'. Extract from evaluation

*'Highest profile of all ICT SIF projects due to sustained and proactive dissemination activity throughout the programme with a range of audiences in FE and HE. Articles published in the Scotsman and Herald newspaper – a major achievement. Feedback gathered online from all internal users for Enquirer. Publication of an online log of work in progress was a novel approach and a useful best practice for future projects.'*

For further detailed information access [www.learninscotland.ac.uk](http://www.learninscotland.ac.uk)