



# **Innovation Through Knowledge Transfer Conference.**

## **University of Greenwich, London, 04<sup>th</sup> April 2014**

**A 15 years case study at Priorclave**



### **Presenters**

#### **Priorclave Ltd**

- **Martin Prior, Director**
- **Sreejit Pillai, Project Manager**

#### **University of Greenwich**

- **Dr Linda Hyder, KTP Manager**

- Laboratory Autoclaves manufacturer
- Established in 1988, Thamesmead
- Position: UK market leader
- Overall staff of 40
- Emphasis on in-house manufacturing
- Markets: UK and Export
- Product Range 40-6000 Litres



Rectangular 450 litre Priorclave  
Source: Priorclave Ltd



# Enterprise Resource Planning (ERP)

Change & People

Involve Staff

KTP

ERP Project 2010-2013  
= Linked Departments

Failure Rate Over 40%

Cost £200,000 (approx)



KTP : Knowledge Transfer Partnership

# 15 Years of Knowledge Association

3 KTP Schemes  
From 1999 to present

Product Development  
1999- 2001

Introduction to the  
(then) TCS Scheme at  
Woolwich in 1988

Supply Chain Optimisation-  
ERP Project  
2010-2013

Manufacturing Optimisation  
2003-2005



# So why have a KTP?

High quality  
trained staff  
at relatively  
low cost

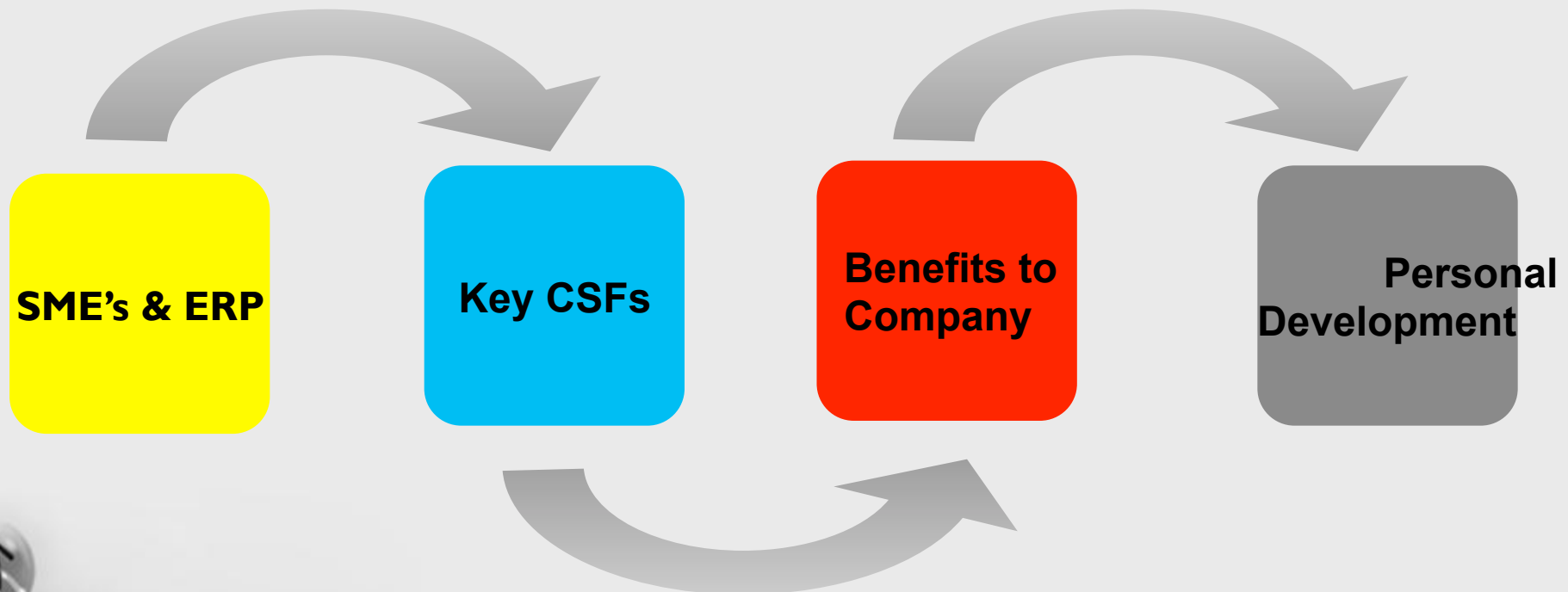
Focussed  
Project  
work not  
diluted by  
day-to day  
tasks

A fresh pair  
of eyes

Support in  
depth from  
the  
University

**An  
innovative  
solution  
to our  
problems**





SME : Small and Medium Enterprises  
CSFs : Critical Success Factors

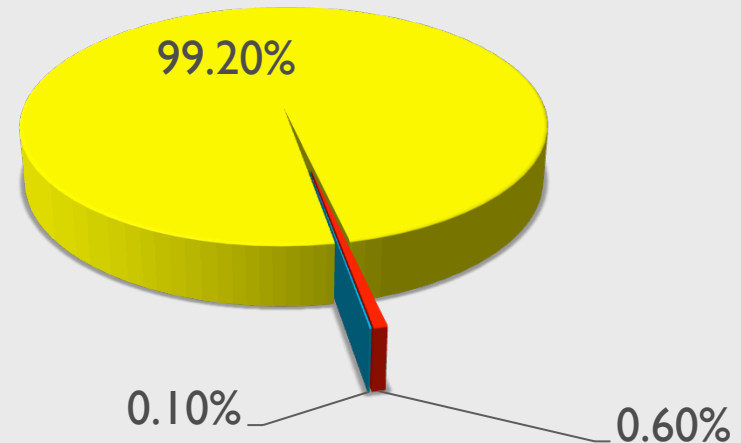


# Why are SMEs Important?

## SMEs:

- Contribute 48.1% to UK private sector turnover
- Provide 58.8% of UK private sector employment
- Have 57.1% share in UK manufacturing

- Small(Staff: 0-49)
- Medium(Staff: 50-249)
- Large(Staff: Over 250)



**UK sector type and enterprise percentages**

Source: UK Enterprise Percentages, Department of Business Innovation and Skills, 2013



# What is an ERP system?

- Links all operations within a business
- Real time information platform for decision-making
- Not just an 'Information Technology' system but
  - Involves people
  - Involves change
  - Involves re-engineering business process to establish best practices
  - Analogy: ISO 9001 Quality Management System





# What is an ERP system?




Market in  
Large  
Enterprises  
(LE) have  
saturated

Since mid-  
2000's ERP  
vendors  
have  
focussed  
on SMEs

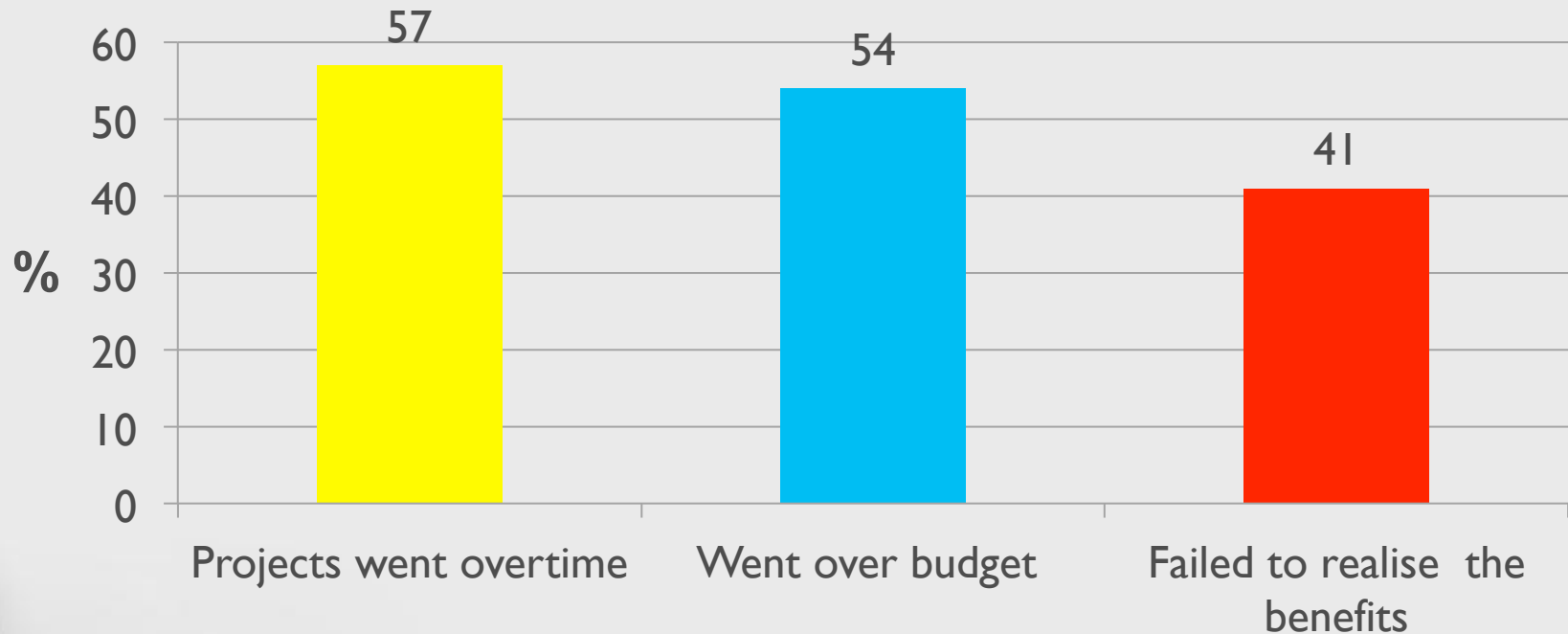
Low cost  
ERP  
packages  
for SMEs

Generalis-  
ation  
issues  
  
CSFs not  
well  
defined



( Source: Ahmad & Cuenca, 2012; Ali & Xie, 2012; Aslan et al., 2011;  
Grabski et al., 2011; Nazemi et al., 2011; Zach & Olsen, 2011 )

Recent global survey on 1600 ERP implementation projects showed (Zach & Olsen, 2011)



# Key CSFs for the ERP project

- Good working relationship built over the years
- Clear aims and goals
- Management support
- Front-end approach
- ERP system to suit best practices not other way around



# Key CSFs for the ERP project

- KTP framework allows
  - No distractions focus on 'PLAN'
  - Expectations and support
  - KTP Advisor - Somebody keeps an eye
  - Association with government gives credibility
  - Knowledge sharing by knowledge base



- Integrated supply chain
- Provides a baseline
- Real time data
  - Management reports lag time reduced from six months to one month
  - Double entry of sales, purchasing, job costing data and payments eliminated
  - Service invoicing time frame reduced to two weeks from average of 4 weeks
  - Key performance indices (KPI) and rewards



# Benefits to Company

- Manufacturing accounts for 70% of the turnover and has been fully computerised
  - Inventory and Stock Control improved with each year
  - Stock count activities save about 1 ½ days compared to pre-ERP days
  - Work-in-progress tracking
  - Job costing done in real-time
- Sets up a baseline for all future system migration



# Benefits to Associate

- PhD thesis submitted
- MPhil degree obtained
- CMI Level 5 Diploma in management and leadership
- Project Management certification PMP
- Journal and conference papers published
- Conference and public speaking skills
- Rounded professional development







## Knowledge Transfer Partnerships



## Enabled academics:

- to work with a major supplier in a niche market of scientific equipment, and has helped them understand not just the company but also the whole supply chain.
- to understand a great deal of the problems in implementing an ERP system in a manufacturing SME specialising in High Variety Low Volume manufacturing.
- to study data from an ERP system working in a live manufacturing SME, enhancing staff knowledge and expertise.



- Opportunity for the Associate to deliver a lecture on his experience moving from academia to industry to the final year students as part of their employability skills.
- Provided data for case studies for final year projects.
- Tutorials based on real life data were used to teach students. More than 140 students benefited from this each year of the project.



- One Associate is completing his PhD.
- 1 conference paper.
- 2 journal papers.
- 6 MSc projects
- 2 under graduate projects
- Contributed to the REF and income generation of the University, but specifically the Manufacturing Research Group.



- Long term relationship with the company.
- Access for further student projects in the future – 1 to 3 per year in addition to the 8 that have been completed during all 3 KTPs.
- All Associates were employed on completion of the KTP projects.
- The company are happy to be involved in other overseas student placement projects, thereby increasing our links with overseas institutes. At the moment there are 6 MEng Mechanical Engineering students from Brazil working on two projects at Prior Clave.



SMEs can  
adopt advance  
technologies

Framework  
is crucial

**Win-Win-Win**

Knowledge  
contacts provide  
this framework





Thank You!

