Scheduling & Timetabling Resource Optimization University Planning

Syllabus Plus Enterprise Resource Planning



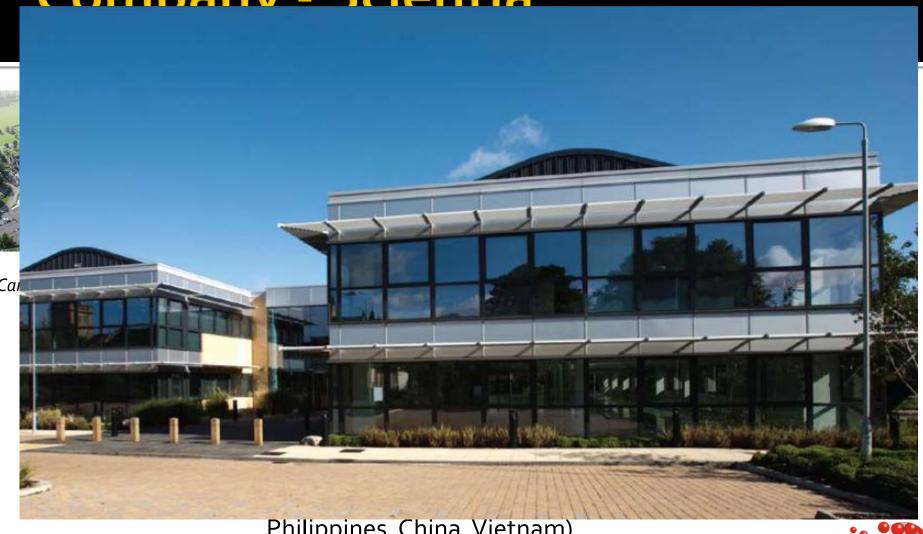


Agenda

- Company Overview
- History of University Timetabling
- Syllabus Plus
- Total Resource Management Solutions
- Case Studies
- Worldwide list of Users
- Partnership with SungardHE



Company - Scientia



Philippines, China, Vietnam)



History of Timetabling

- "Pen and Paper"
 - Slow and tedious
 - Inaccurate
 - Prone to clash
 - Maintenance intensive
 - Not designed to cope with growth.



History of Timetabling

- "Bespoke" solutions
 - Based on MS Excel or MS Access style timetabling
 - Nice GUI, little intelligence
 - Mostly manual
 - Not able to integrate
 - Not able to cater for students needs
 - Not able to cater for institutional changes (new courses, new buildings)

History of Timetabling

- University of Cambridge, England
 - Top ranking university worldwide
 - 1989 Dr. Richard Barber
 - Recognized as leader in AI, Algorithms and efficiencies
 - Procaps Manufacturing algorithm
 - University of Leeds



Automatic intelligent scheduling

- Optimised timetables to suit institution requirements not just 'first-fit' solution
- Fast scheduling complete timetable in minutes/hours not days
- Conflict-free timetables no separate conflict checking needed
- An Artificial Intelligence solution for an A.I. Problem

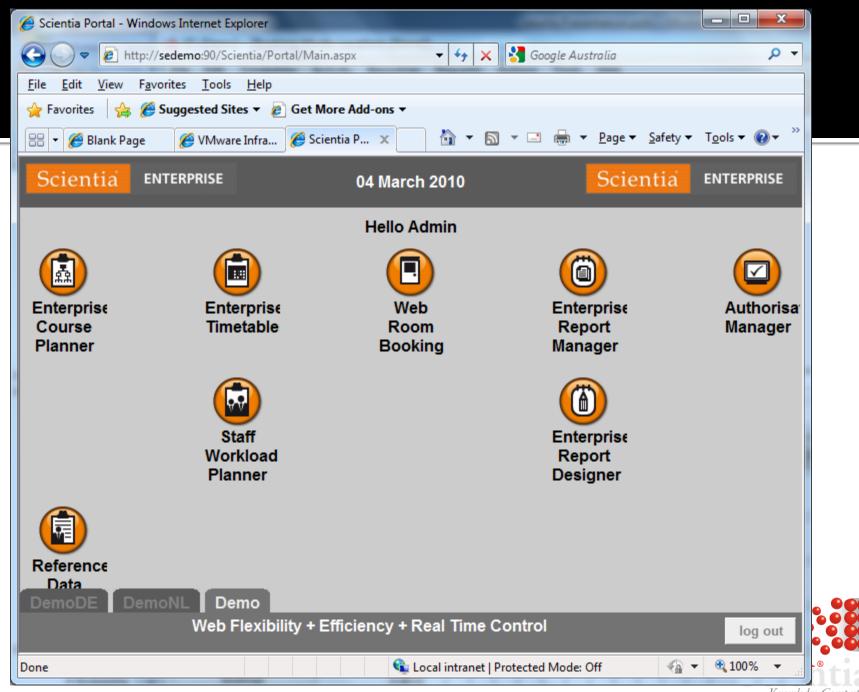
Quick and accurate rescheduling

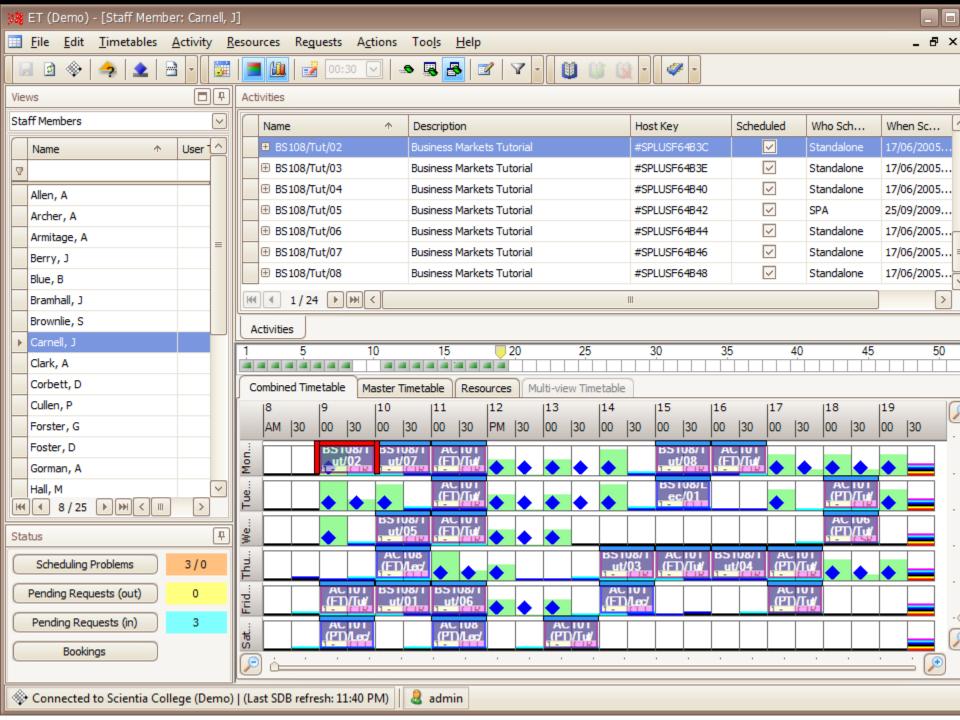
- Planned vs. Actual student numbers
- Easy room, staff and equipment booking changes

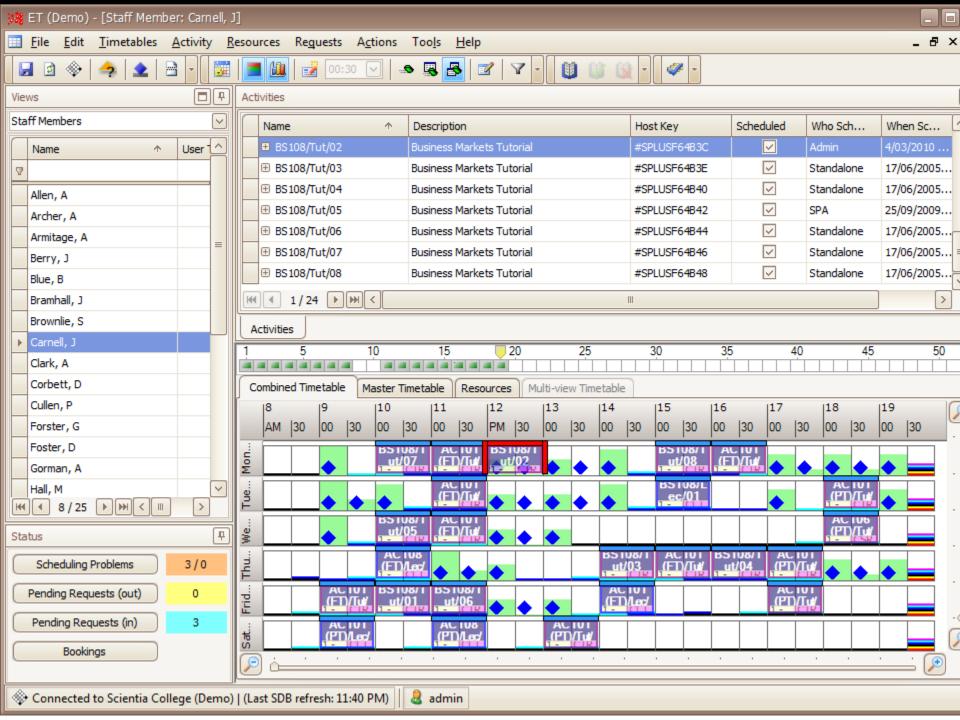
Course Planning

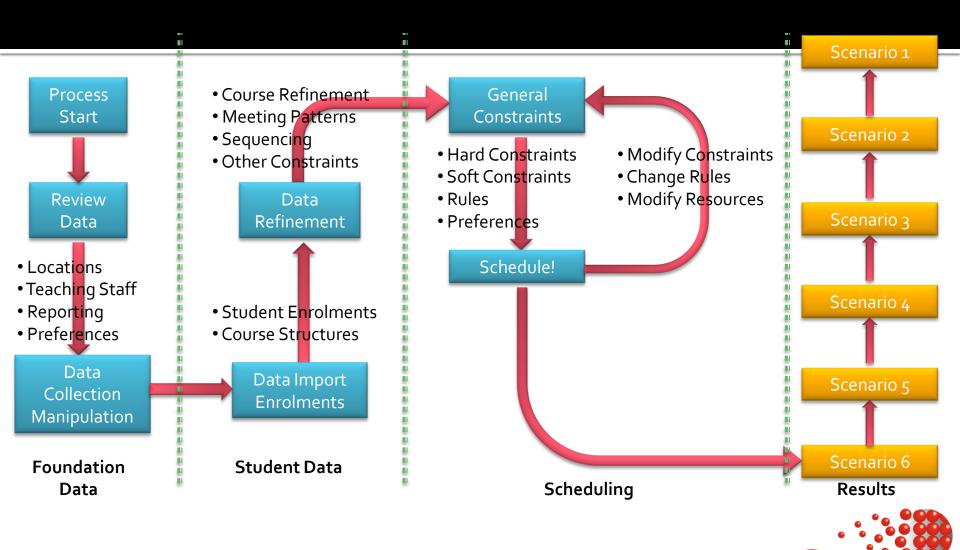
- Ability to deliver different and increasingly complex course structure requirements
- Ability to cater for different student commitments
- Ability to react to changing requirements of industry











Knowledge Computing

Improved resource utilisation

- More efficient use of all general and specialist rooms
- Sell spare capacity
- Ensure best use of staff time

What-if modelling

- Changing patterns of demands
- Faculty requirements
- Changing space requirements
- Test the ability to manage temporary change (refurbishments, faculty absence)

Management Information

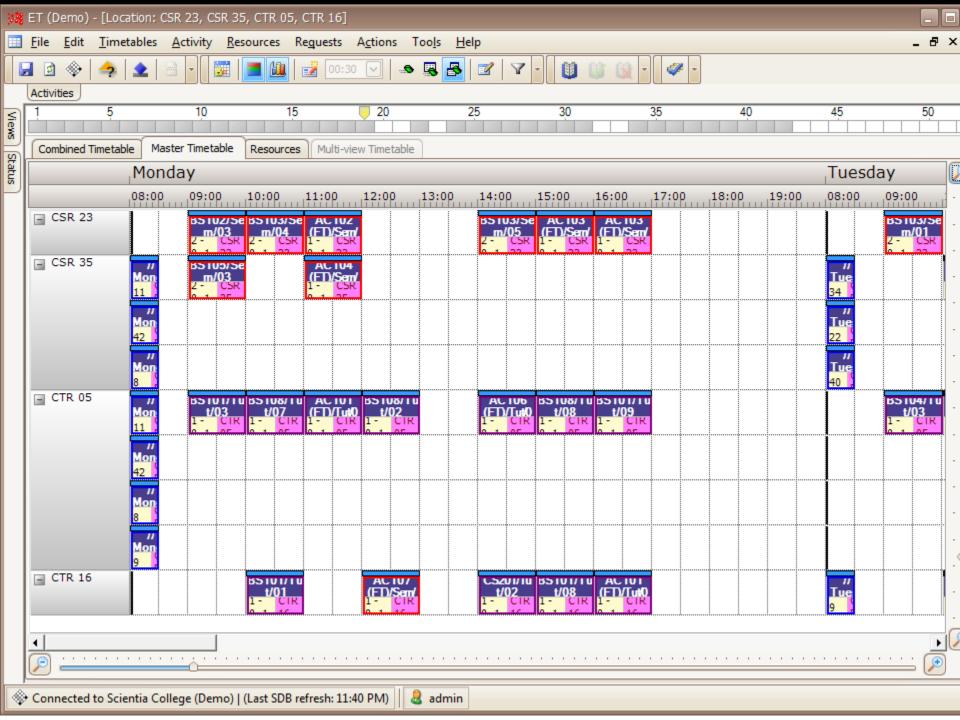
Provide comprehensive management information

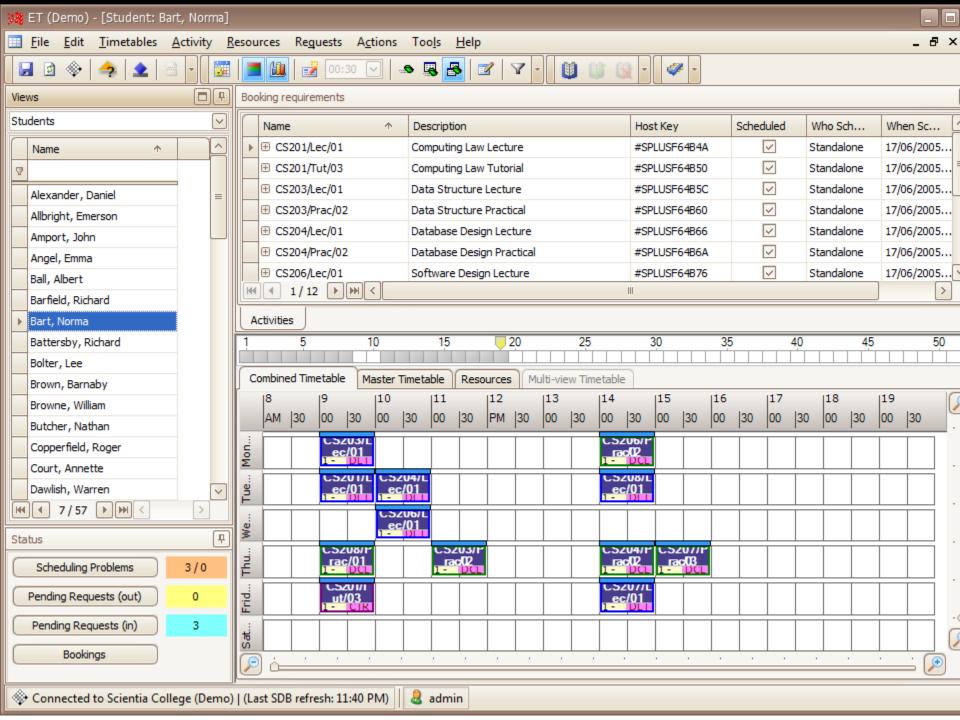


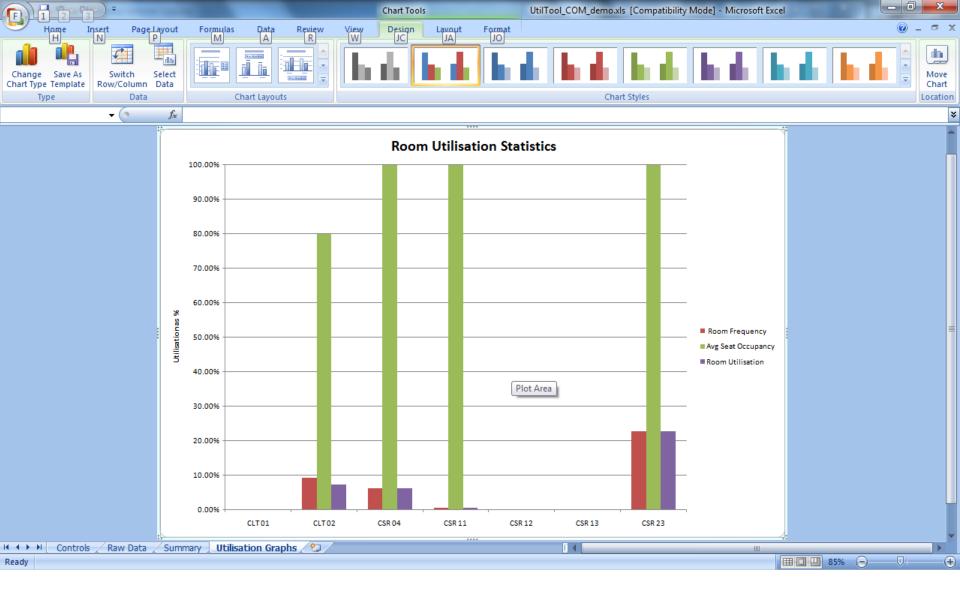
Key Benefits

- Capture real time student enrolment
- Use past historical data to calculate trends
- Track student study trends, habits
- Provide education relevance for student requirements
- Real time resource requirements

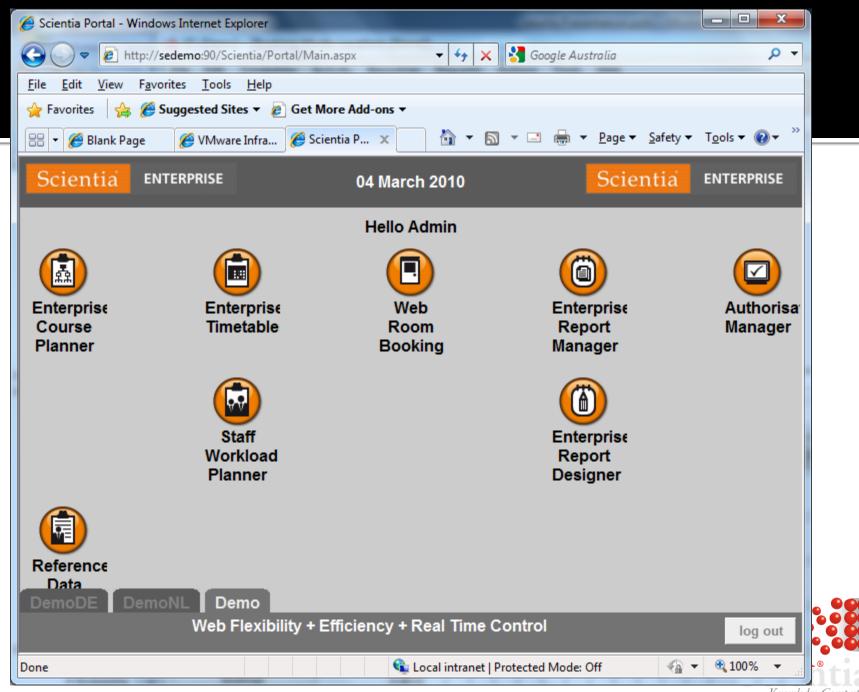


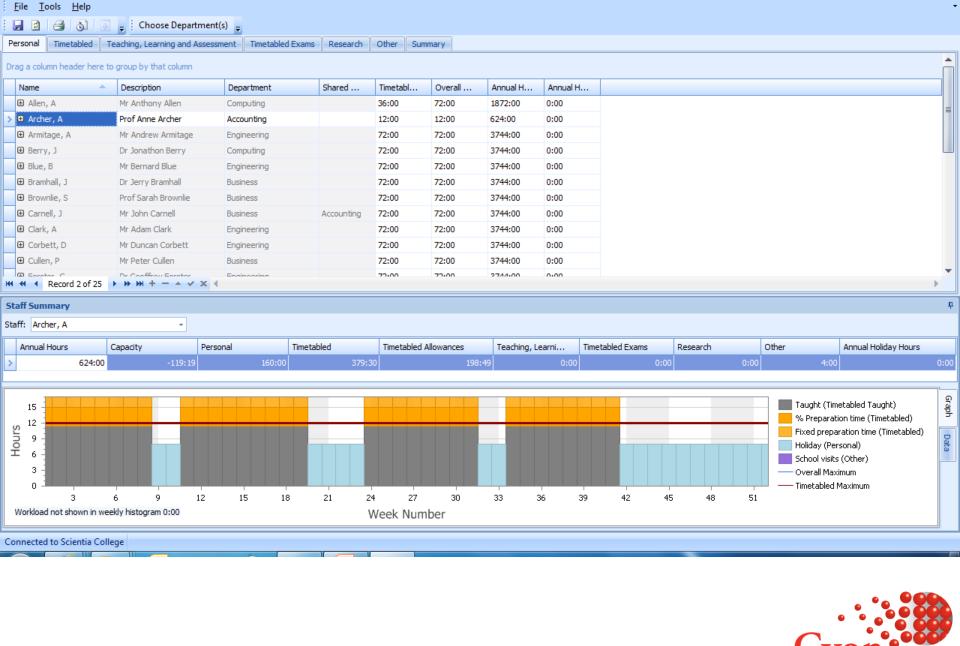






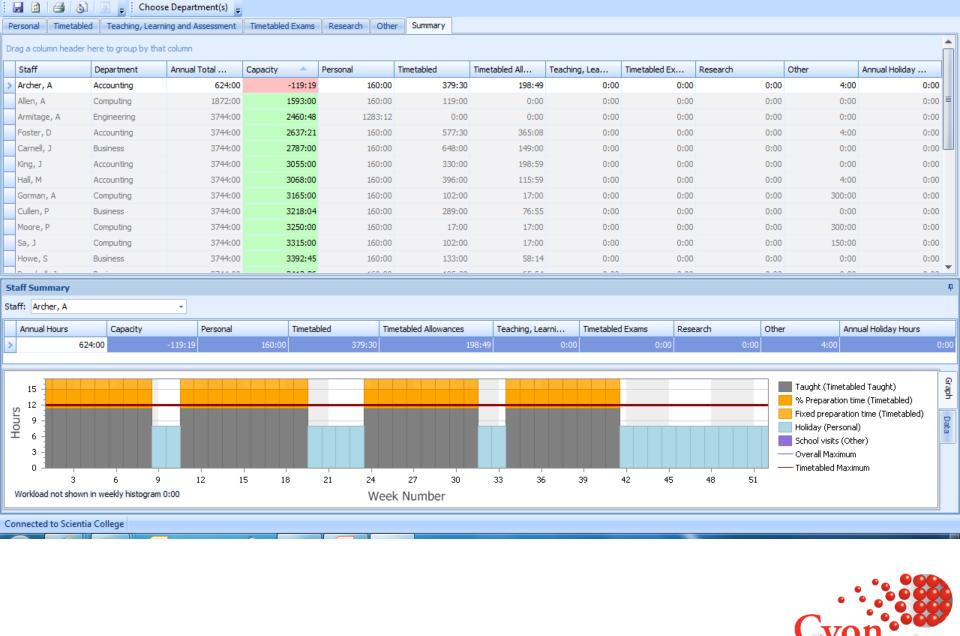






Knowledge Computing

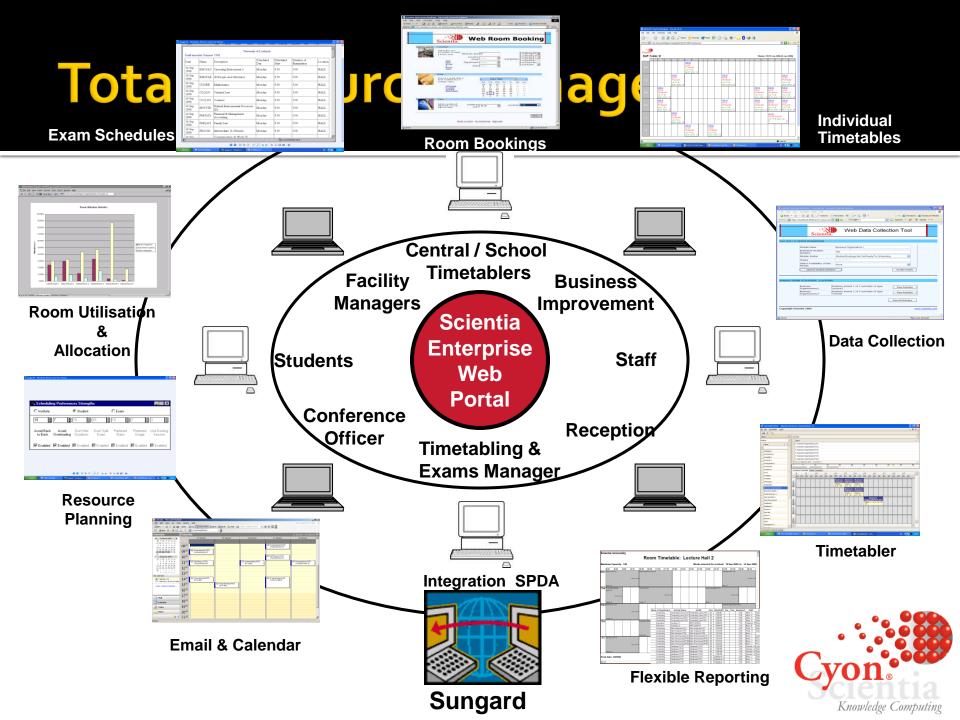
Staff Workload Planner: admin



Knowledge Computing

Staff Workload Planner: admin

File Tools Help



The University of Newcastle, Australia

"Sophisticated use of Syllabus Plus Class Timetabling software as a resource management tool in conjunction with Space Planning software has helped save over \$20 million in new building costs."

Sandra Jones, Manager, Space and Facilities, University of Newcastle, Australia



The University of Wollongong

- 2000
 - 13,000 students
 - 66 Centrally allocated teaching rooms
- 2009
 - 18,000 students
 - 58 Centrally allocated teaching rooms
- 33% increase in students, 12% decrease in space usage Better Resources Utilisation
- UOW did not build any new buildings between 2000 and 2010

- The University of York
 - £5,000,000 (\$12,500,000) capital expenditure on a new building
 - Architects designed 5 "state of the art" lecture halls of 200 seater
 - S+ suggested 8 x 40 seater would yield a much higher optimization (25% vs. 60%)



- National University of Singapore
 - Linked into MOT (Ministry of Transport) for local public transport requirements
- The Open University of Hong Kong
 - Reduced rental of external space
- Vocational Training Council
 - Centralized approach, planning and reporting
 - Decentralized control
 - Multi campus environment similar courses in all campuses (11 campuses)

Client Feedback

- Benefits achieved
 - Improved resource utilisation
 - Increase student numbers, without increasing space requirements
 - What-if modelling
 - Management Information
 - Resource Optimisation = Cost Savings
 - Greater access to choice = Student Satisfaction
 - Access to accurate information (Web, SMS etc.) in real time

Source: Australiasian Syllabus Plus Reference Group (ASPRG)

Australia

Australian Catholic University Australian Defence Forces Academy **Australian National University** Batchelor Institute **Bond University** Central Queensland University **Charles Darwin University** Curtin University of Tech.

Deakin University

Endeavour College of Natural Health

Griffith University

HMAS Cerberus **HMAS Creswell**

James Cook University

La Trobe University

Macquarie University

Monash University

Newcastle University

Queensland University of Technology

RMIT

Stirling College

Swinburne University of Technology.

The Flinders University of SouthAustralia.

University of Adelaide

University of Ballarat

University of Canberra

University of Melbourne

University of South Australia

University of New England University of New South Wales

New Zealand

Bay of Plenty Polytechnic. Christchurch Polytechnic

Eastern Institute of Technology

Lincoln University

Nelson Marlborough Institute of Technology

NorthTec

Otago Poytechnic

Universal College of Learning

UNITECH Inst. of Technology

University of Auckland

University of Canterbury

Waiariki Institute of Technology Waikato Polytechnic

Waikato University

Wellington College of Education Wellington Institute of Technology

Western Institute of Technology

Whitireia Community Polytechnic

China

Nottingham University Ningbo

Vietnam

RMIT Ho Chi Min Campus RMIT Hanoi Campus

The Philippines

Jose Rizal University

Hong Kong

The University of Hong Kong The Open University of Hong Kong Vocational Training Centre Hong Kong

- Institute of Vocational Education Canton Road
- Institute of Vocational Education Chai Wan
- Institute of Vocational Education Hacking Wong
- Institute of Vocational Education Kennedy Town
- Institute of Vocational Education Kwai Chung
- Institute of Vocational Education Kwun Tong
- Institute of Vocational Education Lee Wai Lee
- Institute of Vocational Education Morrison Hill
- Institute of Vocational Education Sha Tin
- Institute of Vocational Education Tsing Yi
- Institute of Vocational Education Tuen Mun SBI College

Singapore

Institute of Technical Education LaSalle College of Arts Nanyang Technology University National University of Singapore Ngee Ann Polytechnic Singapore Management University Temesek Polytechnic

Malaysia

Institute Technology Petronas Maritime Academy of Malasia Monash University Malaysia **University Tecnology Petronas** Swinburne University Sarawak



UK and Ireland

Anglo-European College of Chiropractic

Athlone IT Ayr College

Bath Spa University

Belfast Metropolitan College Bournville College

Bristol Vet School

British Airways

Canterbury Christ Church University

Canterbury College Cardiff University

Carlow IT

Central College of Commerce

City College Manchester

City of Liverpool Community . College.

City University York St John University

Cork - University College

Cork IT

Defence Movements School - RAF Brize Norton De Montfort University

DLG Architects

DMT

Dublin City University Dudley College

Dumfries and Galloway College

Dundalk IT

Farnborough College

Fire Service College

Fleet Air Arm

Galway-Mayo IT

Glasgow Metropolitan College Goldsmiths College

Grimsby Institute

UK and Ireland

Letterkenny IT

Limerick IT

Liverpool Hope University College Liverpool John Moores University

London Fire Brigade

Manchester Metropolitan University

Napier University

National College of Ireland National University of Ireland Galway

North East Wales Institute North Lindsey College.

Northern Regional College North West Regional College

Preston College

Queen Mary University of London

Queen's University Belfast **RAFC Cranwell**

Reading Campus - TVU

Richmond upon Thames College

RNAS Culdrose RNSSS Faslane

Roehampton University Rose Bruford College

Royal Holloway College London

S.E. Essex College

School of Oriental & African Studies

Sheffield Hallam University

Sligo IT

Southern Regional College South East Regional College South West Regional College St George's University of London St. Patrick's College Dublin Staffordshire University

UK and Ireland

University of Bedfordshire

University of Birmingham - School of Ed. University of Bradford

University of Bristol University of Cambridge

University of Cardiff University of Chester

University of Cumbria University of Derby

University of Dundee University of Edinburgh

University of Exeter University of Gloucestershire

University of Greenwich University of Hertfordshire

University of Leeds University of Manchester

University of Northampton University of Northumbria University of Plymouth

University of Southampton University of St Andrews

University of Stirling University of Sussex

University of Teesside

University of the West of England

University of Ulster University of Wales Aberystwyth

University of Wales Institute Cardiff

University of Wales Newport University of Wales Swansea

University of Warwick University of York

Waterford IT



North America

USA

Education Management Corp. Georgia Perimeter College Gwinnett University Center

Canada

Algonquin College
Canadian Memorial Chiropractic College
Concordia University.
Ecole Polytechnique de Montreal
Mount Allison University
University of Calgary
University of Toronto
University of Waterloo

Middle East

Oman Sultan Qaboos University

United Arab EmiratesHigher Colleges of Technology

South Africa University of Pretoria

Europe

Netherlands

AOC Groencollege Hanzehogeschool (Groningen) Hogeschool Artevelde

Hogeschool Beeldende Kunsten

Hogeschool Drenthe

Hogeschool Haarlem Hogeschool Karel de Grote

Hogeschool INHOLLAND

Hogeschool Leiden

Hogeschool Stenden

Hogeschool Utrecht FSAO Hogeschool Utrecht OvB

Hogeschool voor Wetenschap en Kunst

Hogeschool Zeeland

Hogeschool Zuyd

Hotelschool the Hague

Katholieke Universiteit Nijmegen

Marnix Academie

Mondriaan Onderwijsgroep

Noordelijke Hogeschool Leeuwarden

NHTV Internationale Hogeschool Breda

Rijksuniversiteit Groningen Technische Universiteit Delft

LINACE II

UMC Radboud Universiteit Radboud

Universiteit Maastricht

Universiteit Utrecht

Universiteit van Tilburg University of Amsterdam Belgium

Katholieke Hogeschool Leuven Katholieke Hogeschool Mechelen Universite Libre de Bruxelles Universiteit Antwerpen Vrije Universiteit Brussel

France

Cap Gemini

Czech Republic

Hradec Kralove – University of Education Technical University Prague University of Ostrava University Tomas Bata

Denmark

Copenhagen Business School Danmarks Tekniske Universitet Handels- og Ingeniørhøjskolen i Herning Handelshøjskolen I Århus Ingeniørhøjskolen i Århus Ingeniørhøjskolen i København Royal Veterinary and Agricultural University -Copenhagen

Norway

Norges Handelhøyskole Norwegian School of Management NTNU Trondheim University College Agder

University of Copenhagen



Germany

Bergische Universität und Gesamthochschule Wuppertal

FH Bielefeld

Evangelische FH Bochum

FH Bonn Rhein-Sieg (FB Informatik)

FH Dortmund

FH Erfurt

FH Fulda

FH für Verwaltung und Rechtspflege Berlin

FH Güstrow

FH Hamburg

FH Jena

FH Kiel

FH Ludwigsberg

FH Mayen

FH München

FH Nordhausen

FH Oldenburg/Ostfriesland/Wilhelmshaven

FH Osnabruck

FH Potsdam

FH Südwestfalen

FH Wismar

FH Zittau-Görlitz

FH Zwickau

Hochschule Bremerhaven

Hochschule Hof

Hochschule Mittweida

HTW Dresden

HTWK Leipzig

Humboldt-Universität zu Berlin

Kath. FH Feiburg

Switzerland

Ecole hotelière de Lausanne

Spain

Universidad Alfonso X El Sabio



Recent Cyon Success

- Recent implementations of TTS
 - The University of Auckland (2008)
 - La Trobe University (2009)
 - The University of Hong Kong (2009)
 - Nanyang Technological University (2009)
 - University Islam Indonesia (2009)
 - Australian Film Radio Television School (2010)
 - The Chinese University of Hong Kong (2010)
 - The University of Tasmania (2010)
 - Think Education (2010)



Australasia Syllabus Plus Reference Group (ASPRG)

- ASPRG run by users for users
- Represents all Syllabus Plus clients in APAC
- Access to timetabling community, mailing lists and conferences:
 - Regional conference (June 2010) in Auckland
- Forum to exchange info as well as communicate with Cyon\Scientia – wishlist, enhancements

Cyon\Scientia and SungardHE

- More than 3 years of successful partnership
- More than 40 sites globally
- Close working relationship between Cyon and SungardHE
- Commenced development of "seamless" integration between Syllabus Plus and Sungard Banner

Cyon\Scientia and SungardHE

Clients running Syllabus Plus and Sungard Banner:

- Australian Catholic University
- University of Liverpool
- Heriot-Watt University
- Royal Holloway University of London
- University of Ulster
- University of Durham
- Université Libre de Bruxelles
- Vrije Universiteit Brussel
- Norwegian School of Management (cancelled 2006)
- HCT 12 colleges in UAE
- An Cheim 12 Colleges
- Leeds
- Southampton
- Greenwich
- Perimeter college Georgia [no longer being used there]
- Gwinett centre Georgia [no longer being used there]
- Sorbonne University (Abu Dhabi campus) via John Buck International
- Sheik Zayed University via John Buck International



Thank You

Questions?