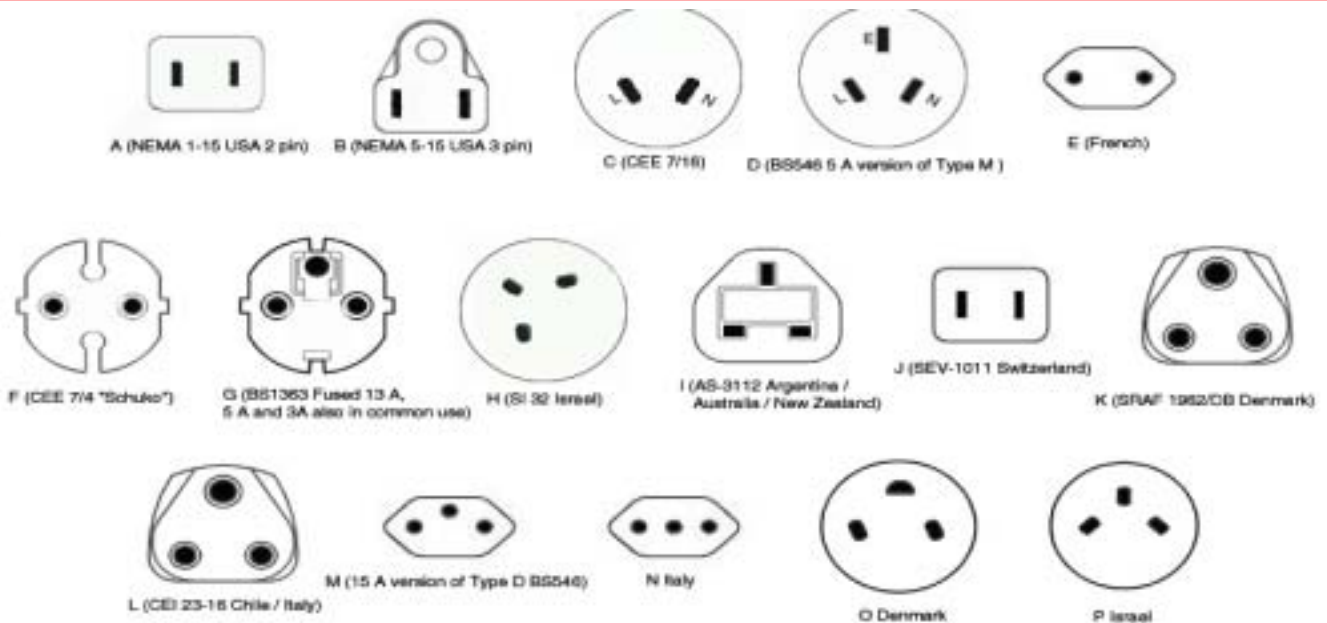


Supportability Engineering & Analysis

Based on scientific principles of Mirce Mechanics



Integrated Logistics Support related activities meticulously record the type of the electrical plug installed, included its NATO stock number and other identifying information. However, it is **System Supportability Engineering** function to select the plugs, among competing alternatives (see photo above), based on established criteria, and to design its in-service life support, that covers activities like packing, transporting, repairing, maintaining, storing, sparing and similar.

If this simple, but important, example does not excite you to join us, then, try to make a cup of coffee by plugging in a three-pin plug coffee machine into two whole walls socket.

Even more try to imagine what else could **not** have been done, during the in-service life of any system. by not having input of supportability engineers at the design stage!

Transition from contractually required ILS management job to supportability engineering is possible but certainly cannot be done in a few days. However, what can be done in a few days is to learn the fundamental scientific principles on which supportability engineering is based, which is Mirce Mechanics. Hence, do join us on this occasion and make the first step towards embracing this exciting engineering profession that is essential part of systems engineering process & management.

27th MIRCE International Summer School

12 – 15 July 2016 Woodbury Park, Exeter EX5 1JJ, United Kingdom

Dr Jezdimir Knezevic



Researcher, educator and entrepreneur with over 300 publications disseminated world-wide through books, handbooks, papers, monographs and reports are attributed to his name. In addition, he has delivered hundreds of technical presentations, key note addresses and speeches; has been congress, conference, symposium chairman, track leader, workshop presenter, round table moderator on many hundreds international events which took part in all continents.

Dr Knezevic is the father of **Mirce Mechanics**, the science of the motion of maintainable systems through functionability states in time. He is the Founder and President of MIRCE Academy, an independent research and educational institution based in UK.

His multi-disciplinary theoretical knowledge, considerable “hands-on” practical experience and endless passion for the subject have attracted over 6000 engineers, managers and students to his courses and educational programmes in over 40 countries in Europe, North and South America, Asia, Australia and Africa, at universities, professional institutions, industry and government.

Dr Knezevic has worked in the field of the system functionability theory and its applications to engineering and management for over 30 years.

Full details www.mirceakademy.com

At the MIRCE Academy we have discovered and faced this problem for many years. During our extensive research studies, by numerous students and members of staff, we have observed and analysed large number of failure phenomena - inherent failures, maintenance errors, foreign object damage, as-bad-as-old repairs, not fault found, ageing processes, storage and transport related phenomena, fatigue cracks, impact of solar radiation, sand, wind, ice on machine durability, material vacancies and many, many more. These failure phenomena required visual checks, inspections, operational tests, non-destructive tests, reliability parameter and indicator monitoring, failure data recording and analysis and those phenomena demanded spares parts, facilities, test equipments, tools and similar resources. We have understood a large number of failure causes, frequencies, and the consequences of their occurrences by studying lives of a large number of maintainable systems. We have quantitatively determined and analytically formulated their relationships. Finally, their **physical relationships** have been captured and described through **mathematical formulas** that enable accurate predictions to be made. All of that has given birth to the *Mirce Mechanics, the science of the motion of maintainable system through functionability states, in respect to time.*

On this occasion we would like to share our knowledge with practising engineers and managers whose business pressure is preventing them from doing this type of research, but who are never the less asked daily to deliver this type of requirements or expectations.

Supportability Engineering & Analysis Programme

Introduction

This course provides participants with tools and techniques that can be used early in the design phase to effectively participate in a design process from the perspective of system supportability. Participants will be introduced to requirements identification and development and will learn to integrate supportability in design by focusing on factors such as configuration commonality and inter-changeability, use of standard parts and fasteners, and adherence to open system standards.

Designed For

This programme is suitable for practicing engineers, analysts and managers and others who need to gain basic knowledge and understanding of analytical tools and techniques that should be used in Supportability Engineering process from the concept to details stages of design.

Objectives

By the end of this course you will be able to:

- Understand system supportability philosophy, concepts, principles, terms, and definitions
- Determine and develop system supportability requirements for new systems
- Understand the integration of supportability modelling, prediction, and analysis methods and techniques in the system engineering process
- Effectively use system supportability measures and integrate system supportability characteristics into system functionality characteristics
- Identify weaknesses in the proposed design and propose solutions for their enhancement.

Content

■ Supportability Engineering

■ Supportability Engineering: philosophy, concept, term, definitions and measures of support process.

- **Support Tasks:**
 - Training
 - Storage
 - Packaging
 - Handling
 - Transportation
 - Provisioning
- **Support Resources**
 - Personnel
 - Material
 - Facilities
 - Tools
 - Equipment
 - Data
 - Energy

Supportability Measures Statistics

- Supportability Function
- Mean Duration of Support Task

Predictions of Supportability Measures

- Support Activity Diagram
- Supportability Measures for:
 - Simultaneous Tasks
 - Sequential Tasks
 - Combined Tasks

Supportability Analysis Process

- Discard or Repair
- Standard Test Points
- Standard Parts
- Standard Dimensions
- Simplified Technical English
- Standard Training Devices
- Standard Tools/Equipment
- Existing Facilities

Mirce Supportability Equation

Case Studies and Applications:

Boeing 777, French High Speed Passenger Train, Formula 1 cars, Saab Gripen Military Aircraft, Airbus A 380 and A400M, Channel Tunnel, Joint Strike Fighter

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Venue

Woodbury Park

Woodbury Park is a magnificent 500 acre complex set among rolling hills above the South West English coastline, only a few miles from Exeter.

Communication between Exeter and other parts of the United Kingdom are excellent. **By road**, the M5 motorway links Exeter to London, the Midlands, Scotland and Wales. Regular rapid coaches run services to and from London and Heathrow Airport. **By rail**, a regular fast service is available to and from Exeter (St David's Station) and London (Paddington Station). **By air**, Exeter Airport offers regular flights to many British and Continental destinations and is situated near to Woodbury Park.

Travel between Exeter and Woodbury normally requires a car or taxi.

Among the outstanding leisure facilities at Woodbury Park are two golf courses including the magnificent **Oaks Championship course**, tennis courts, a swimming pool, spa, sauna and fully equipped gymnasium and well appointed lounge areas and bars.

Woodbury Park, Exeter, EX5 1JJ, UK

 +44 (0) 1395 233 382

 +44 (0) 1395 233 384

 enquiries@woodburypark.co.uk

 www.woodburypark.co.uk



Exeter is the most southwesterly Roman fortified settlement in Britain. Exeter Cathedral was founded in the early 12th century and has several notable features, including an early set of misericord, an astronomical clock and the longest uninterrupted vaulted ceiling in England. **Today**, Exeter is identified as one of the top ten most profitable locations for a business to be based.



Woodbury Park Hotel & Golf Club, Exeter, EX5 1JJ, UK – home of the MIRCE Akademy

Key Information

Price (GB Pounds £)

Package Type	Fee	VAT	Total
Participant	995	199	1194
MIRCE Fellows	975	195	1170
MIRCE Members	955	191	1146
MIRCE Student	755	151	906
MIRCE Retired	555	111	666

The Price includes:

- Tuition
- Study Materials
- Lunches
- Light Refreshments
- Summer School Dinner - Fish & Chips
Dinner in XVII century English pub on 14th
July. Lighter Inn. Tonsham

Group Discounts for Standard Participants

2 bookings, from the same organisation will receive a 15 % and for 3 or more 25% discount.

Location and Accommodation

The Summer School will be held at **Woodbury Park Hotel, Golf and Country Club**, which is approximately eight miles from Exeter by road.

Participants are responsible for the arrangement and payment of their own travel and accommodation.

Participants wishing to take advantage of preferential room rates should contact Woodbury Park Hotel Reservations quoting 'MIRCE'.

The contact details are:

Woodbury Park Hotel, Golf and Country Club,
Woodbury, Exeter, EX5 1JJ, United Kingdom

Tel +44 (0) 1395 233 382

Fax +44 (0) 1395 233 384

Email enquiries@woodburypark.co.uk

Web www.woodburypark.co.uk

A list of alternative accommodation in other hotels and guesthouses in the vicinity is available from MIRCE Akademy on request.

Difficulties with the Fee.

Should any interested individual have a problem for paying fees published please contact directly Dr Knezevic, on jk@mirceakademy.com

Travel

For travel details to Woodbury Park and a map visit our website at www.mirceakademy.com.

Messages

During the Summer School participants may be contacted by telephone on +44 (0) 1395 233 85. Messages will be passed to participants during breaks.

Language

The Summer School language will be English.

Recommended Attire

Smart casual is recommended dress code for the Summer School and in the in the grounds of Woodbury Park.

No formal dress is required for the Summer School Dinner.

Smoking

Woodbury Park does not permit smoking in any of the leisure and sport complex facilities and in the hotel.

Mobile Phones

Out of consideration to speakers and the audience, mobile phones should be switched off during the formal sessions.

Further Information

 **+44 (0) 1395 233 856**

 **quest@mirceakademy.com**

 **www.mirceakademy.com**

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Booking Form

Please photocopy for each additional participant

Terms and Conditions

Substitution of participants may be made at any time. If you intend to do this, please advise MIRCE Akademy as soon as possible.

Cancellation of a booking must be received in writing by the organiser at least 14 days before the commencement of the event in order to receive a refund of payment. MIRCE Akademy regrets that no refunds will be made after the deadline.

MIRCE Akademy reserves the right to change the advertised programme or location or to cancel the event at its discretion. In the event of cancellation of the event by MIRCE Akademy payments received at the cancellation date will be refunded. All places offered are subject to availability.

MIRCE Akademy is not responsible for any loss or damage as a result of substitution, alteration or cancellation of the event.

Mirce Akademy is unable to accept liability for the loss of, or damage to, the belongings of those attending the event.



Participant Details

Surname	
First Name	
Position	
Department	
Organisation	
Address	
Zip/Post Code	Country
Telephone	Fax
Email	
Special Dietary Requirements	
<i>I understand and accept the terms and conditions and payment as shown.</i>	
Signature	Date

Payment Method

<input type="checkbox"/> Cheque
I enclose a cheque for GB £ _____ payable to Mirce Science Ltd.
<input type="checkbox"/> Bank Direct Transfer
Please contact us for details.
<input type="checkbox"/> Credit Card
Please debit my credit card <input type="checkbox"/> Visa <input type="checkbox"/> MasterCard <input type="checkbox"/> Amex
Cardholder
Card No.
Expiry Date _____ Security Code _____
Cardholder's Signature
<input type="checkbox"/> Invoice
Please invoice my organisation:
Department:
For the attention of:
Purchase Order No.
Address (if different from above)
City: _____ Zip/Post Code _____
Country

Value Added Tax (VAT)

Unless special exemption arrangements exist, under UK Customs and Excise regulations participants from all countries are required to pay UK VAT @ 20 % at the time of publication. Non-UK participants may be able to recover VAT incurred via the relevant tax authority in their country of origin.