



EUCIP
European Certification of
Informatics Professionals

EUCIP

Logistics & Automation Consultant

Elective Level Profile Specification

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Short Description

A EUCIP Logistics and Automation Consultant is expected to combine process analysis skills with a specific effectiveness in identifying and implementing IT solutions for industrial operations. This requires a thorough competence on CIM architectures, MES, packages for SCM and the logistic modules of ERP systems. Professional consultancy skills and a general competence in systems development are also vital.

This profile requires a minimum work experience of **18** months in a compatible job role; if this requirement is not fulfilled, the candidate might be certified as an **Associate** Logistics & Automation Consultant.

Tasks Overview

Operates in the Supply Chain Environment taking care of information and operating processes.

Supports the identification of organisational improvements in Engineering, Planning, Purchasing, Production and Inventory control using IT functions and tools.

Supports the client organisation (which might be represented by an IS Manager), the potential provider and other advisers (e.g. Business Analyst, IS Analyst, etc.) in envisaging business improvement opportunities and presenting project proposals.

Based on a sound knowledge of generally accepted principles and best practices in Manufacturing and Supply Chain processes proposes “standard” business models and matches them against existing processes in the client organisation. Understands implications with Sales and Distribution, Finance and Accounting (Product Costing) procedures.

Facilitates the definition of a precise project scope, in terms of operating units and legal entities, accounting methods, products data, operating processes and specific procedures to be configured on the new (or improved) information system.

Provides the Project Manager with estimations about the effort required to customise and deploy a software package so as to fit the target organisation.

In large projects, typically acts as a team member on the contractor’s side; in smaller projects, may act as the project leader for a specific area or even coordinate the whole project.

Works within client organisation to streamline business processes, functions, procedures and workflows through a consistent package implementation methodology.

Collects sample data and uses them to build a significant pilot model of the new system. Proofs the general model through several simulation sessions where managers, process owners and operational users of the information system can fully understand and approve the way the target system shall work.

Solves common modelling issues through an intelligent use of existing package features and functions; proposes sensible workarounds for more critical issues; in case of serious mismatches, proposes the usage of additional tools (e.g. some calculations to be performed through a spreadsheet, linked to the main system through proper interfaces) or slight changes to the software; in the latter case, defines high level functional specifications for the required modifications.

Produces high quality documents and written reports, describing organisational and/or technical topics in a clear and concise style.

Plans and manages effective communication sessions (i.e. various types of formal and informal meetings, training, presentations, demonstrations, brainstorming etc.) showing strong relational skills, goal-orientation, a problem solving attitude and a full mastery of business communication techniques.

Collaborates with ICT staff both for testing (single new module or entire system) and for data extraction, transformation and loading.

Ensures that some selected key users are fully responsible for the quality of data in the new system.

Conducts final simulations with real data and acceptance testing.

Conducts or supports end users' training.

In compliance with agreed terms, supports the client organisation in initial usage of the new system and in measuring its benefits through possible post-implementation reviews.

Essential Behavioural Skills [4]¹

The Logistics & Automation Consultant role requires a good general knowledge, excellent oral and written expression, and a very wide range of more specific behavioural skills.

Attention to the client, interaction, ability to collect information, plus keen organisational and commercial sensitivity are required to understand quickly the client's needs.

Analytical and comparative intelligence, imagination and proactivity are required to formulate and validate solutions.

Attention to detail, a logical-minded and goal-driven approach, flexibility, determination, planning and control aptitude, teambuilding and leadership are required to achieve effective results.

¹ numbers in brackets represent EUCIP points

Detailed Skills Required

Deep competence level [17]

A1.06 Product/Process engineering and costing [2,5]

- Use basic engineering concepts and terminology; e.g. sourcing (make/buy), product structure, product costs.
- Able to manage Engineering revision concepts and procedures.
- Understand purpose for product data and specific concepts (Lead Time, phantom, yield).
- Identify different types of product structure (Engineering BOM, Production BOM, Planning BOM, ...).
- Understand logical relation of Product Structure and Product Routing with production process mapping.
- Understand purpose for production data and specific concepts (Work Centers, set-up and operation Time, shifts and labour time, production scrap, overlapping).
- Appreciate differing types of cost and methods of product costing.
- Discuss how to set up Engineering Cost data and their link with Accounting Management (chart of accounts, cost centres etc.)
- Discuss how to establish procedure to adjust costing values.
- Customize the parameters of a specific ERP/PLM (CAD) system and show how it can be used to obtain the results close to reality.

A1.07 Planning and inventory control [2]

- Discuss how to set up planning and scheduling system in order to be able to manage planning issues at different levels of detail (both for operations and costing).
- Understand MTS, ATO, MTO, BTO, JIT concepts and their impact on planning configuration and inventory management.
- Understand specific production planning concepts (Forecast, On Hand, Available, Hold, Available To Promise).
- Describe warehouse management procedures (receiving, control, storage, picking, delivery).
- Discuss impact of Repairs and Returns on Productions and Inventory procedures.
- Discuss different Inventory Counting methods.
- Analyse Distribution Planning logic.
- Customize the parameters of a specific ERP/SCM system and show how it can be used to support the required processes and procedures.

A1.08 Purchasing and production processes [2,5]

- Appreciate the impact on business processes of different sourcing models, like:
 - o Scheduled receiving,
 - o Call Off on planned quantities,
 - o Order receiving,

- Consignment Stock.
- Analyse production strategies in different market sectors, including:
 - primary sector and mineral industry,
 - construction industry,
 - industrial equipment and machining,
 - manufacturing (e.g. consumer packaged goods, ...).
- Discuss Quality Management processes and procedures in the following areas:
 - Product control and Quality Assurance,
 - Production Control,
 - Returns management.
- Evaluate Subcontracting processes and procedures and different components sourcing strategies.
- Describe typical business processes and procedures for Purchasing and Production Performance evaluation.
- Customize the parameters of specific ERP / SCM systems and show how they can be used to support the required processes and procedures.

B1.16 Industrial automation architectures [1,5]

- Describe logical CIM Architecture and relevance / purpose of each typical layer; map different hardware components and software applications.
- Describe CIM Information Management at each layer and data exchanged with upper/lower. Define responsibility in generating and using Information. Discuss required data definition level and update timing.
- Evaluate content and scope of a Manufacturing Execution System (MES): identify information requirements and data collection impact; recognise relevance of Quality Control issues.
- Recognise the features of a Flexible Manufacturing System (FMS).
- Describe the purpose of a Programmable Logic Controller (PLC) and assess its applicability.
- Present common examples of RFID technology implementation. Describe benefits in Material Handling and Production Control.

A4.03 Package implementation techniques [2,5]

- Acquire an understanding of the software package market in a particular business context.
- Evaluate a software package against defined requirements.
- Document the functional match of a package solution.
- Perform a gap analysis for a package selection.
- Present the recommendation for a specific package solution.
- Present recommendations concerning the "fit" of the software package to agreed functional and non-functional requirements.
- Explain the advantages of the package approach.
- Identify, assess and propose solutions for enhancing end-user productivity through:
 - optimal use of package software

- integration between different package software modules (if applicable)
- integration between package software and common desktop applications
- personalized user interface and restricted data sets
- Appreciate the issues with tailoring the package software.
- Identify specific requirements to be solved through custom software development and write functional specifications for necessary changes or extensions to the standard package.
- Explain a specific package implementation methodology (e.g. ASAP for SAP).
- Explain the different scope of subsequent modelling and piloting phases of a typical package implementation methodology.
- Define the modified business processes required in a package solution.
- Ensure that business events are managed through appropriate systems and that adequate information is distributed to the decision makers according to the projected business processes.
- Ensure that the target organisation is aware of all security issues related to a complex information system.
- Configure package security features so as to grant the right data visibility to every user and to prevent unauthorized access.

A5.01 Project Management essentials [2,5]

- Define the role of the various specialists in a typical project organisation structure (e.g. according to PMI, IPMA, Rational Unified Process, PRINCE2).
- Contribute to the IS project plan for a given business scenario.
- Contribute to risk analysis of a project proposal, concentrating on business risk.
- Use standard approaches to evaluate a project plan from the business viewpoint.
- Assist in defining the phases within a project and the role of the business analyst in those phases.
- Assist in the creation of constraints and the definition of milestones, checkpoints and reviews for a project.
- Define Corporate Standards for the documentation of business analysis deliverables in a project.
- Contribute to quality assurance processes within a project, from a business perspective.

B1.10 “Dry run” application testing [1,5]

- Explain the principles of Testing.
- Apply Test Management Standards.
- Understand core testing terminology (e.g. Expected Results, Expected Information).
- Perform High Level Test Planning.
- Organise User Acceptance Testing (UAT).

- Prepare reasonable and meaningful data sets that allow a realistic simulation of the future live system.
- Specify a comprehensive set of procedures and different application flows that shall be tested.
- Perform Dynamic Testing (Black Box).
- Test system functions with real sample and simulated data sets.
- Conduct functional and non-functional UAT, and ensure full user acceptance of both the system and the proposed data models.
- Record possible emerging issues and classify them by type and severity.

B2.05 Data migration [2]

- Use SQL queries and database tools to support data migration.
- Assess that a “clean” database is available for use.
- Check what kind of data can actually be extracted from previously existing (legacy) systems.
- Check what kind of data can actually be extracted from databases used during system piloting phases.
- Support possible manual data entry for initial population of the new database.
- Contribute to the extraction of data in various formats (plain ASCII, CSV, XML...).
- Know how to use standard Database interfaces like ODBC, JDBC, etc.
- Identify effective and non dangerous shortcuts (e.g. copy and modify, automated procedures, secure SQL DML queries) to increase efficiency of initial data population.
- Assess that all data is normalized and consistent both with system internal rules (e.g. referential integrity) and with agreed conventions (e.g. coding schemes, uppercase/lowercase etc.); ensure that the users / data owners be responsible for data accuracy and cleanliness.
- Evaluate when the system is ready to “go live”.

Incisive competence level [11]

A1.01 Business activity and business process modelling [1,5]

- Understand the Rationale for Business Activity Modelling.
- Perform Internal Environment Analysis (e.g. MOST).
- Perform External Environment Analysis (e.g. PESTLE).
- Use SWOT Analysis.
- Perform Business Viewpoint Analysis.
- Define Business Activities for an organisation.
- Define CSFs and KPIs for a business change.
- Formalise Business Rules within an organisational unit.
- Define Information Support needed for the defined activities.
- Perform conflict resolution between perspectives.

- Create Rich Pictures to describe a business scenario.
- Utilise the Soft Systems Approach to developing an Information System.
- Evaluate alternative ways of modelling business processes; e.g. Data Flow Diagrams, Process Hierarchy Diagram, Process Dependency, Event Models.
- Conform to the syntax of business process modelling.
- Document Information flows (sources, destinations).

A1.02 Requirements engineering [1]

- Distinguish between Functional and Non-Functional requirements.
- Use What, Why, How questioning to elicit requirements.
- Differentiate between requirements and project constraints.
- Identify the Actors in the Requirements Management process: Domain Expert, End User, Requirements Engineer, and Developer.
- Perform requirements elicitation.
- Perform Problem and Business understanding activities.
- Understand the needs and constraints of stakeholders.
- Use Creative thinking and related techniques (e.g. interviews and scenarios, observation, prototyping, workshops, generic requirements for industry sector).
- Prioritise Requirements (e.g. 80/20, MoSCoW, Needs and Musts).
- Resolve overlapping requirements.
- Judge whether a problem is a cause or symptom.
- Resolve conflicting requirements.
- Reduce ambiguity of requirements .
- Ensure Testability of requirements.
- Support requirements validation via reviews and prototyping.
- Achieve Requirement Refinement.
- Manage the requirements definition process.
- Differentiate between stable and volatile requirements.
- Apply versioning principles to requirements documents.
- Establish traceability and ownership of requirements.
- Use CASE Tools for requirements management.
- Act as an effective member of a team involved in eliciting and recording user requirements for an Information System.
- Apply a range of elicitation techniques effectively.

A1.03 Organisational strategies and related IT system selection [1]

- Classify organisations based on their type, internal structure, legal status etc.
- Evaluate the role IT plays in different types of organisation.
- Evaluate the impact of different organisational structures on the management of IT.
- Evaluate Corporate Mission Statements and their IT implications..
- Build a business plan for a particular organisation.
- Evaluate the major techniques for building a business strategy.

- Involve functional managers and key users to identify the key business needs.
- Propose new technical & organizational tools to improve office automation and productivity (e-mail, document/content management, cooperative workflow with external partners).
- Identify IT solutions for factory automation.
- Outline the IT needed to deliver a given business plan.
- Select a portfolio of computer support tools for management of an organisation.
- Contribute to an overall strategy for leveraging of organisational knowledge, memory and learning.
- Use well-known decision making and problem solving techniques.
- Select suitable Management Information Systems (MIS) software for an organisation.
- Evaluate the usefulness of different IT-based workflow systems.
- Compare the effectiveness of virtual team working and physically co-located team working.
- Establish a collaborative structure, using relevant technology.
- Evaluate implementations of collaborative technologies.
- Evaluate the link between an IT strategy and the business strategy.
- Design appropriate matches between organisational need and IT provision.
- Identify the strengths and weaknesses of MIS, On-line Transaction Processing (OLTP) and related system types.
- Contribute to the specification of a Data Warehousing system to support Business Intelligence (analytics) users.

A2.01 Information Systems in the business environment [1]

- Explain the nature of Management Information in the planning and control of organisations.
- Define the strategic role of Information Systems (IS).
- Demonstrate a detailed understanding of common business functions.
- Describe why an IS Strategy is needed.
- Contribute to the development of an IS Strategy.
- Relate IS Strategy to Business Strategy.

A4.01 New technology opportunities and the matching of these to business needs [2]

- Analyse business processes and compare them against alternative solutions proposed by standard software packages (“best practice” approach).
- Evaluate various options for the “virtual organisation” within a business scenario.
- Establish a business case for moving from a “segregated” sales and marketing strategy to the “unique customer” approach in a given organisation.
- Produce a report on the effects of globalisation for an organisation.

- Evaluate the Internet as a tool for creating new opportunities for an organisation.
- Evaluate extranets as a tool for achieving efficiencies in customer/supplier interaction.
- Produce an impact analysis for an organisation related to the increased use of e-business mechanisms.
- Evaluate a project which used IT as the enabler for a significant business change.
- Produce a report documenting the major features of Customer Relationship Management tools.
- Compare the features offered by two major Supply Chain Management packages.
- Evaluate the case for using Enterprise Resource Planning tools for a given business scenario.
- Compare the strengths and weaknesses (from a business viewpoint) of developments in IT technical architectures (e.g. web based vs. "2 tier" client server).
- Evaluate the case for using Document Management systems.

A6.01 Managing business change [1]

- Develop a communication plan to facilitate organizational changes
- Foster innovation by an appropriate evaluation system for IT staff
- Promote training to facilitate the change
- Identify organizational and technological drivers of resistance to change
- Understand human behaviour and its impact on business change.
- Create a plan to overcome resistance to change from the business, including "selling" the benefits of new technology.
- Make effective use of Audio-Visual tools in making the case for change within an organisation.
- Explain to non-IT staff the role of IT in achieving corporate aims, and its place within the organisation.
- Ensure that the case for change is presented effectively, using modern delivery techniques.
- Evaluate the Impact of an IT solution on the Business, its Customers/Suppliers, Staff, Internal processes etc.
- Select between Programmes and Projects for Business Change.
- Organise the delivery of user training for both new business processes and the use of any underpinning ICT services.
- Control the interfaces between Business Change projects and enabling IT projects.
- Identify cultural, organisational and business constraints affecting options for change.
- Establish an understanding of business aims and develop alternative processes to achieve them.
- Assess the risks, costs and potential benefits of alternative business process designs.

B2.06 Data Warehousing [1,5]

- Present the value of business information management in increasing the visibility and exploitation of enterprise data.
- Explain the concepts of Data Base (DB), Data Warehouse (DW), data mart and the importance of dedicated systems for analytical purposes.
- Identify relevant sources of data that can feed a Business Intelligence (BI) system, including:
 - o internal and external sources
 - o structured and unstructured data
- Identify and solve inconsistencies in the meaning, scope, and format of data to be used.
- Define a logical model of data for analytical purposes:
 - o categorise data into facts and attributes
 - o identify data relationships and hierarchies
 - o define expressions and metrics
 - o draw standard maps representing the above data model
- Provide guidelines and operational support for data Extraction, Transformation and Loading (ETL).
- Configure a BI tool to host the required logical data model.
- Use a BI tool to design reports (including tables and graphs).
- Perform basic troubleshooting in the usage of a BI tool, identify and solve possible issues in the data model, in the ETL process and in the output functions (reports etc.).

B1.11 Enterprise Applications Integration [1]

- Explain the characteristics and typical features of enterprise application software in comparison with personal productivity software, system software and web services.
- Identify the actual and potential scope of each of the software applications that compose the Information System (IS) of the target organisation.
- Identify functional overlaps between applications, describe related inefficiencies and risks and propose effective solutions.
- Envision sensible uses of web interfaces and automated e-mail responders for a wider and secure access to information stored in enterprise-level applications (like ERP or legacy systems).
- Provide guidance on how a standard package can be localised to fit languages, conventions and specific statutory requirements or other typical local requirements.
- Use internal system tools, macro procedures, query languages or package-specific customising environments (e.g. ABAP/Netweaver for SAP) to adapt the software functions to specific needs.
- Write a functional specification of software interfaces that can contribute to the optimal integration of the IS.
- Distinguish between temporary and permanent interfaces, one way or “to-and-from” data flows, real-time or periodic alignments, incremental or regenerative synchronisations.

- Distinguish between database-level data load (e.g. through SQL instructions or import functions), stored procedures and application-level bulk load (e.g. through redirection of input).
- Perform testing and basic troubleshooting in the usage of interfaces between software systems.

B3.04 Designing and developing distributed and critical applications [1]

- Choose the right level of transaction support.
- Plan and design for performance, maintainability, extensibility, availability, scalability, and reliability. Considerations include:
 - o number of transactions per time increment
 - o bandwidth
 - o capacity
 - o peak versus average usage requirements
 - o response-time expectations
 - o barriers to performance
 - o processes per server
 - o parallel execution
 - o maintenance expectations
 - o location and knowledge level of maintenance staff
 - o impact of third-party maintenance agreements
 - o hours of operation
 - o level of availability
 - o impact of downtime
 - o growth of the partners
 - o growth of the company
 - o volume of documents
- Design integration with existing applications. Derive the physical design.
- Install remote components: considerations include attended and unattended installations.
- Troubleshoot failed installations.
- Identify situations for applying custom components.
- Monitor and optimise performance: tools include performance counters, Event Viewer, Windows Management Instrumentation (WMI).
- Diagnose and resolve implementation errors.

External references to SFIA[®] version 3 by the SFIA Foundation

Skill 6: Business Process Improvement

“The identification of new and alternative approaches to performing business activities. The analysis of business processes, including recognition of the potential for automation of the processes, assessment of the costs and potential benefits of the new approaches considered and, where appropriate, management of change and assistance with implementation.”

Level 5

Skill 31 : System Integration

“The incremental and logical integration and testing of components and/or subsystems and their interfaces in order to create operational systems.”

Levels 4 or 5

Skill 51: Application Support

“The provision of application maintenance and support services. Support may be provided both to users of the systems and to service delivery functions. Support typically takes the form of investigating and resolving problems and providing information about the systems. It may also include monitoring their performance. Problems may be resolved by providing advice or training to users about an application’s functionality, correct operation or constraints, by devising work-arounds, correcting faults, making general or site-specific modifications, updating system documentation, manipulating data, or defining enhancements – often in close collaboration with the system’s developers.”

Levels 4 and 5

Skill 37: Business Process Testing

“The planning, design, management, execution and reporting of business process tests and usability evaluations. The application of evaluation skills to the assessment of the ergonomics, usability and fitness for purpose of defined processes. This includes the synthesis of test tasks to be performed (from statement of user needs and user interface specification), the design of an evaluation programme, the selection of user samples, the analysis of performance and inputting results to the development team.”

Levels 4 and 5

Skill 2: Consultancy

“The provision of advice, assistance and leadership in any area associated with the planning, procurement, provision, delivery, management, maintenance or effective use of information systems and their environments. The consultancy can deal with one specific aspect of IT and the business, or it can be wide ranging and address strategic business issues.”

Level 5

External references to AITTS by the German Government – *Arbeitsprozessorientierten Weiterbildung in der IT-Branche*

Profil 5.5: Business Systems Administrator (Anwendungssystemadministrator/in)

“Der Business Systems Administrator unterstützt Unternehmen durch die Beurteilung, Konfiguration, Modifizierung, Inbetriebnahme und Administrierung neuer oder bereits bestehender Unternehmensanwendungen. Diese werden unter Berücksichtigung von Anforderungen formuliert. In enger Zusammenarbeit mit den zuständigen Fachabteilungen erstellt er Pläne für Piloteinführungen neuer Unternehmensanwendungen und das anschließende Rollout, welches er zu verantworten hat. Eventuell auftretende Probleme werden vom Business Systems Administrator analysiert, um diese dann in Zusammenarbeit mit den Herstellern und dem jeweils zuständigen Administrator zu beheben. Zusätzlich unterstützt er die Nutzer der Unternehmensanwendung und erstellt entsprechende Reports.”

Profil 3.1: Business Systems Advisor (Anwendungssystemberater/in)

“Der Business Systems Advisor analysiert und optimiert in enger Kooperation mit dem IT Business Consultant Geschäftsprozesse. Dabei wirkt er an der Konzeption von geschäftsprozessunterstützenden Unternehmensanwendungen mit und begleitet den notwendigen Einführungsprozess der ausgewählten Unternehmensanwendungen. Bei diesem Curriculum für die arbeitsprozessorientierte Weiterbildung zum Business Systems Advisor handelt es sich um ein Spezialistenprofil, dessen Tätigkeits- und Kompetenzfelder anhand eines Praxisprojekts in einem klein- und mittelständischen Unternehmen (KMU) erhoben wurden und das somit beispielhaft und repräsentativ für diese Unternehmensgröße sind. Daher wird an dieser Stelle explizit darauf hingewiesen, dass die Tätigkeits- und Kompetenzfelder sowie die zugehörigen Transferprozesse für den Business Systems Advisor in großen Unternehmen – mit entsprechend größeren Projektvolumina – von den nachfolgenden Beschreibungen im Detail abweichen können.”

External references to *Nomenclature 2005* by CIGREF (club informatique des grandes entreprises françaises)

Métier 1.5: Gestionnaire d'applications

“Le gestionnaire d'applications a pour objectif d'améliorer la performance, de contribuer au fonctionnement et de participer à la gestion et à l'évolution du système d'information du métier pour la mise en cohérence avec les orientations, les modes de fonctionnement et les processus définis au niveau de métier.”

Métier 4.3: Intégrateur d'applications

“Sous la responsabilité du chef de projet maîtrise d'œuvre, il participe au choix des différents composants logiciels (progiciels, bases de données, développements spécifiques...) et en assure l'assemblage dans le respect du plan d'urbanisme des systèmes d'information de l'entreprise et de l'architecture retenue pour le projet. En ce qui concerne les développements spécifiques, les travaux sont effectués soit en interne par le développeur, soit en externe avec l'aide d'une société de services.”

Métier 4.4: Paramétreur d'ERP

“À la demande de la maîtrise d'œuvre ou de la maîtrise d'ouvrage, et sur la base des spécifications fonctionnelles émises par les chefs de projet métier ou le responsable de projets métiers, le paramétreur d'ERP analyse, prototype et paramètre les nouveaux composants progiciels applicatifs dans le respect des normes et procédures, ainsi que les évolutions souhaitées sur les composants. Il assiste et apporte sa maîtrise sur le module dont il a l'expertise et les processus de modélisation associés. Son expertise porte sur l'un des modules fonctionnels composant l'ERP (Enterprise Resource Planning ou progiciel de gestion intégré en français).”