**Nemala RAMKumar**

**SAP Manufacturing CONSULTANT**

**SUMMARY**

* Twenty four years of Professional IT experience in SAP PP, SAP QM, SAP CorS, SAP PP-PI, SAP PS, **SAP PEO**, SAP ME, SAP MII and digital technologies
* Over 23 years of SAP PP, MES(PEO and ME) and QM configuration Experience
* Experience in integrating PLM systems with SAP and MES
* Experience in designing/creating custom dashboards for Shop Floor
* Experience in Integrating ECC/S4 data with LIMS and Shop Floor Applications using MII
* Experience in implementing ISA-S95 model in MES
* Experience in manufacturing execution systems shop floor asset management device automation and plant maintenance control lab integration frameworks
* Experience in executing all phases of SAP ERP/MES Development Life Cycle from Requirement Analysis, Architecture, Solution Design, and Realization to Go Live and support.
* Involved and assisted in creating User Exits, Smart Forms, LSMW, ALE, and IDOCS.
* Configured EDI, Partner Profiles, Idocs.
* Good experience and thorough knowledge of ORACLE and SQL Server database
* Excellent offshore, offsite and onsite project execution and team management skills.
* Worked in highly critical projects involving production databases effecting business processes with critical deliverables.
* **PROFESSIONAL AND BUSINESS EXPERIENCE**

**Principal Consultant – Solution Delivery**

Client Engagements:

**Northrop Grumman, Denver, CO 01/2020 to Present**

**SAP Manufacturing Execution Consultant (SAP S4 HANA, PEO, SAP MII & PCo, FactoryLogix)**

**Responsibilities:**

* Part of the global template to Design/Architect and developed SAP S4 HANA PEO for all the Business units in US.
* Designed a strategy to implement SAP Corporate Serialization (CorS) for the serialized part in the manufacturing solution
* Configured serialized and non-serialized production process using role-specific UIs for production operators
* Converted eBOM’s to mBOM’s using VEMP
* Configured SAP PEO and mapped to the business requirements captured for the global template
* Integrate PEO with Machines on shop floor using MII/OPC server and captured data from the machines and seamlessly integrated with S/4 and PEO
* Integrated HR qualifications objects to identify qualified resources to run the operations in PEO
* Configured the inspection type to define different types of inspection control and Implemented default values for inspection type - controls lot creation.
* Implemented and Configured the Quality inspection for goods movement - responsible to create lot with respect to goods movement.
* Identified and Extended Action Handlers for execution of functions before and after production
* Implemented SPC charts and OEE in PEO.

**Environment:** S/4 HANA, SAP PEO, SAP MII, OPC Server.

**Raytheon, Tucson, AZ 09/2013 to 12/2019**

**SAP Manufacturing Consultant (SAP PP, QM, PEO, MES Apriso)**

Raytheon Missile System (RMS) manufactures complex missiles for Government. Design lead in the Supply Chain team responsible for design and delivery of manufacturing execution solution (CAMS in APRISO) across 2 manufacturing plants in North America

* Manage and coordinate SAP manufacturing execution software implementation including the project schedule, requirements writing, design reviews, trade-off studies, benchmark analysis, functional use case authoring, system architecture, user acceptance testing, defect resolution testing, training, trouble shooting, database streams, deployment and post go-live operations and maintenance
* Designed a strategy to implement SAP Corporate Serialization (CorS) for the serialized part in the manufacturing solution
* Using MII developed the interfaces between CAMS and SAP
* Design and Implemented home grown MES system in SAP called cMES. Unique features of the cMES design included:
  + Designing solution for Shop Floor Control (SFC) as a unique ID
  + Routing creation from standard operations including routing alternate parts
  + Designed custom Mass Update transaction for mass update of Production Orders effected by the update of the reference operations. Utilized standard OCM functionality in custom Mass Update transaction.
  + Designed interfaces to test with MII applications compatible with cMES processes
  + High volume factories in IDS, SAS and RMS send messages to automate the following process
    - Start SFC
    - Complete SFC
    - Sign off SFC
    - As Built
    - Data Collect
    - Log NC
    - Relabel
    - X-Ray

Designed Mass Processing transactions to process the above transactions

* Prototyped solutions with several options for cMES functionality and actively participated in the discussions with business stake holders to highlight the pro’s and con’s of each of the options and how they fit with the different business units for cMES project
* Responsible to understand the As-Is process on shop floor and map it to the Execution process
* Develop and author functional use cases including Visio diagrams demonstrating new or existing business process functionality including the flow within the PEO application
* Manage and catalogue a document repository maintaining design deliverables, use cases, requirements fulfillment, test scripts, statements of work and a project schedule with internal deliverables including design approvals, business process flows, test results and decision correspondence.
  + Performed unit testing and integration testing of the solution, supported end user testing, stability testing and regression testing; Used Mercury test director for documenting test scripts, execution of test runs, capture and track test defects.
  + Designed, developed and delivered training courses for Managers, Supervisors and End Users in Manufacturing Operations and Execution functions across multiple plants; developed Standard Operating Procedures (SOP’s) and User Guides.
  + Go Live support
* Integrated SAP ECC data with Ignition MES Solution
* Responsible for configuring eBOMS and mBOMS in ECC
* Responsible for configuring CAPP Parameters in CAMS
* Manage Sharepoint project website providing government customer and stakeholder project status and supporting users training material.
* Manage vendor, users and technical team to enable Oracle database streams including requirements writing, configuration, user acceptance testing, implementation, regression testing and maintenance.
* Support Change Control Boards for application patching including over sight of implementation working with basis team, system administrators, user acceptance testing and regression/functional testing.

**ConAgra Foods, Omaha, NE – March 2007 to August 2013**

**SAP PP Consultant**

Design lead in the Supply Chain team responsible for design and delivery of manufacturing execution solution across 38 manufacturing plants in North America which spans Snacks, refrigerated, grocery, and frozen manufacturing. Scope of implementation included Process Order Management, browser based PI sheet, integration to scales using MII, extensive integration with Recipe Management module, Handling Unit Management (HU) in Production Staging Area, extensive integration with Warehouse Management and Quality Management.

* Browser based PI sheet was used for Process Order Execution. Unique features of the PI sheet design included:
  + real time integration with Recipe Management module to display Allergens associated with the material produced
  + real time integration with Recipe Management module to retrieve Thermal Specification and Pallet patterns through the PI sheet using dynamic function calls
  + real time integration with Recipe Management module to retrieve the Work Instructions for Manufacturing and Process Parameters for execution
  + Scalable batch sheets to display formula information for individual batching runs
  + Simplified Goods Issue functionality to issue Handling Unit Managed (HU), Storage Unit Managed (SU), Quant Managed, and Non WM materials from a single screen; this included bundling of pick and post for Handling Unit Managed materials
  + Implemented 4 new GPD / Project stock based manufacturing sites using previous configuration as template
  + Evaluate Cost + business process, specifically relating to the usefulness of GPD
  + Integration to scales using MII to retrieve goods receipt quantity
  + Backward Flushing to efficiently handle materials movements between process orders
  + Net Weight calculation for Goods Receipts when Tare weight was either entered in the PI sheet or retrieved from the scales using MII
  + Dynamic determination of material produced based on in-process inspection results
  + Other standard execution functions delivered in the PI sheet – Reporting of Labor and Machine Hours, Reporting Start and Finish Confirmations, By-Product receipts, Co-Product receipts, in –process inspection results recording
* Implemented Handling Unit Management in Production Staging Area (PSA); ConAgra is the first SAP customer to implement extensive Handling Unit Management in the PSA’s to accurately cycle count and reconcile PSA inventory. Several gaps were identified in standard SAP. Worked with the development team in Germany to define requirements to address the gaps; SAP released several OSS notes with code changes and enhancements to implement Handling Unit Management in PSA’s
* Implemented Batch Specific Valuation (Split Valuation at Batch Level) to value inventory of materials based on specific batch characteristics
* Master Recipes were generated by transforming Site Recipes in Recipe Management; this ensured end to end integrity of formula information and provided real time batching information to the shop floor operators for execution
* Multiple operation master recipes with Intra Materials was used to reduce the number of process orders while delivering real time scalable batch sheets to each of the operations within the process orders; Streams generated at the stage level in the Site Recipe in Recipe Management was transformed to create the Intra Material quantities
* Execution design included tracking and reporting of different buckets of losses including moisture loss, overfill, line flush, material transfer losses due to equipment constraints and material loss during transfer from warehouse to the shop floor; this provided detailed material usage variance information to shop floor manager to identify and address potential opportunities in material usage cost
* Came up with creative process order execution design to provide end to end batch traceability for business processes with complex material flow
* Played an active role in identifying and developing the strategy/approach and design for integration and visualization opportunities to drive efficiency in production execution; scope of integration included
  + PPPI integration to MES systems to get real time material consumption quantity, material received quantity and machine hours
  + PPPI integration to MES systems to deliver formula information; this will ensure complete integrity and real time update of formula information all the way from the Recipe Management to the shop floor execution system
  + PPPI integration to the Time Management application, Kronos to obtain labor hours at process order level
  + QM integration to SPC application, Infinity QS to get real time in-process & goods receipt inspection results

**SAP America, Newtown Square, PA – June 1999 to June 2007**

**Eli Lilly, Indianapolis, IN – June 2003 to June 2007**

**Lead PP/PP-PI Consultant – Manufacturing Operations Solution Delivery**

Responsible for hands on design and delivery of Manufacturing Operations solution in SAP PP/PP-PI (Versions 4.6C and ERP 2005, ECC 6.0) for Human Health and Animal Health Operations in 23 plants across 12 countries in North America, South America, Europe and Australia. Scope of manufacturing operations implementation included Process Order Management, browser based PI sheet for Manufacturing Execution, extensive integration and interface with Manufacturing Execution Systems (MES), Process Control Systems (PCS), Warehouse Execution Systems (WES) and RF Devices. Manufacturing Operations solution was designed and rolled out across global manufacturing network which included Small and Large Molecule API, Dry Products, Natural Products, and Neuroscience products spanning Cell Culture processing, Fermentation, bulk manufacturing, Formulation, Filling and Finishing.

* Conducted business requirement gathering workshops with key stake holders from different business units and documented the business requirements and current state business processes in Documentum.
* Prototyped solutions with several options and actively participated in the discussions with business stake holders to highlight the pro’s and con’s of each of the options and how they fit with the different business units, Lilly System Engineering Frame Work and the Manufacturing Information and Control Systems (MI&CS) road map. Actively worked with the stake holders on the design decisions and documented future state business processes in Documentum.
* Key design aspects included Brower Based PI Sheet for capturing execution activities, Interface from SAP to Process Control System using standard SAP PP-POI interface, Active Ingredient Management, Manufacturing and Expiration Date Management, Batch Determination based on proportional units, batch restrictions and shelf life, Activity Based Costing using Process Order functionality in Manufacturing and Packaging Operations, Material Staging for Process Orders using SAP WM, Material Receipts from Process Order and Put away using SAP WM, Inspection Lot Management for batches and batch genealogy.
* Configured all of the different objects to activate PP-PI functionality. The key configuration elements included
  + multiple order types and Order type dependant parameters to manage different processes
  + Order confirmation parameters
  + multiple production scheduling profiles to manage order release, PI sheet creation, batch creation and classification of produced material, and management of WM transfer requirements
  + control keys and scheduling parameters for handling the scheduling, capacity planning, product costing and activity confirmations for different processes and materials
  + standard value keys and parameters, formulas for scheduling, capacity planning and product costing
  + process order user statuses including status and selection profiles, and authorization keys for status profiles
  + order information system
* Configured process management functionality in SAP for creation of browser based PI sheets. Key configuration elements included process instruction characteristics, process message characteristics, process message destinations, process message categories, process instruction categories, control recipe destinations, filter variants for generation of process instructions in PI sheet, variants and background jobs for sending control recipes and process messages
* PI sheets were configured for reporting material consumption, production receipt, machine and labor activities, initiating WM Transfer Requirements (TR) and Transfer Orders (TO) for requesting extra material from warehouse and returning material back to warehouse, inspection results against inspection lots, and other key manufacturing execution, Quality Management and Warehouse Management transactions. PI sheet functionality also included by-product and unplanned batch creation and receipt, transaction calls to standard and custom SAP transactions including order information system and process message monitor.
* Configured the Production Optimization interface for transfer of master data and transactional data from SAP to MES, WES and manufacturing ticketing systems; Key configuration elements included definition of reduced message type for process order interface, change pointers for master data consistency, interface message types for definition of master data fields to be interfaced to external systems
* Developed functional specification for several objects; Some key objects were:
  + custom enhancements to PI sheets including validation function modules in process instructions, and enhancements to function modules assigned to process message destinations
  + inbound and outbound interface from SAP R/3 to ticketing systems, Manufacturing Execution Systems (MES), and Warehouse Execution Systems (WES) for interfacing process order data, production master data which included BoM’s, Material Master, Master Recipe and Production Versions, production execution data which included material consumption, production receipt, and reporting activities
  + enhancement to process order user exit to perform BoM mismatch checks, update batch header and batch characteristics
  + custom reports for checking master data consistency between SAP and MES, process order IDOC report to manage process order downloading to MES,WES and manufacturing ticketing systems, process order execution reports to support and monitor Operational Standards and Supply Chain Excellence metrics
* Developed the master data design for Material Master, Resources, Master Recipes, Bill of Materials (BoM’s), Production Versions, Batch Search Strategy, WM Control Cycles, Material classification, Batch classification and Resource classification; Setup master data configuration including Engineering Change Management (ECM) for Bill of Materials; Played active role in data verification along with master data stewards including data conversion activities
* Performed unit testing and integration testing of the solution, supported end user testing, stability testing and regression testing; Used Mercury test director for documenting test scripts, execution of test runs, capture and track test defects.
* Designed, developed and delivered training courses for Managers, Supervisors and End Users in Manufacturing Operations and Execution functions across multiple plants; developed Standard Operating Procedures (SOP’s) and User Guides.
* Work with FI(CO) consultant in developing the processes for bottom-up activity-based-costing & quantity based process flow models to help accurate collection of overhead costs for future project pricing & with SD Consultant for resource related billing for maintenance projects. Investment Management/Fixed Assets (R&D, Testing facilities/Infra-Structure viz. Simulators, new hardware model).
* Assisted the business people with the Future State Organization design, role group mapping and training curriculum assignment to role groups; worked closely with the security team to develop the security design and transaction assignment to role groups.
* Provided post go live support
* Upgraded the Manufacturing Operations global design developed in SAP R/3 4.6C to ERP 2005, ECC 6.0
  + Resolved master data, configuration, and custom object issues identified during the upgrade
  + Pro-actively resolved issues based on information in release notes
  + Developed business case and presented to process owner on new functionality available with ECC 6.0.
  + Configured PI sheets using Execution Steps (XSteps), a new functionality available with ECC 6.0
    - Setup complex functionality using XSteps which helped get rid of core modification, reduced production support cost by transferring control to local master data stewards, simplified the master data design, facilitated global design consistency
    - Identified several issues with XSteps, worked with SAP development team in Germany to resolve the issues

**Amgen, Juncos, Puerto Rico – June 2006 to December 2006 (primarily offsite consulting)**

**Lead PP-PI/QM Consultant**

Lead consultant responsible for the future state global design of Production planning and Execution (APO SNP and PP-DS, PP/PP-PI), Warehouse Management (SAP WM) and Quality Management (SAP QM) solutions in SAP ECC 5.0 for Amgen Manufacturing Limited bulk, Fill and Finish Operations. Scope also included integration and interface to Manufacturing Execution System and RF Devices.

* Gathered requirements for different business scenarios in production planning, warehouse management, process order execution and Quality management and documented the AS-IS process.
* Developed the global SAP design for PP-PI, WM and QM, and developed the future state process.
* Key design aspects were:
  + Back flushing of batch managed warehouse materials
  + Master data design including shift sequences, resource formulas, standard values, recipes, BOMs, production versions, warehouse storage bins, control cycles and inspection plans.
  + Custom functionality for BOM mismatch check during order release and Product exposure time calculation.
  + MRP for raw and packaging materials; Capacity planning including evaluation, dispatching orders and levelling.
  + Process order execution included material availability check, batch determination during order release, material staging of components, reporting activities and material movements using standard SAP transactions
  + Quality management included results recording, correction inspection lots, passing usage decisions and working on a possible interface design with LIMS.

**BP Chemicals, Naperville, IL – March 2001 to June 2003**

**Lead PP/QM Consultant**

Team lead for Production Planning and Master Data Conversion team; Responsible for the delivery of SAP R/3 Production Planning and scheduling solution including integration with Advanced Planning and Scheduling tool MIMI, Shop Floor Control Systems and other SAP modules which included SAP QM, MM, WM, SD and Product Costing across 10 different business units with over 15 manufacturing plants in North America, Europe, and Asia Pacific; Responsibility also included design of global master data design which included Material Master, Bill of Materials (BoM), Work Centers and Resources, Routings and Master Recipe, Production versions and all QM master data, co-ordination and managing data collection, cleansing, data mapping, data conversion and reconciliation; Responsibility also included managing transactional data collection and conversion including inventory conversion and reconciliation.

1. Analysed, Designed, Configured, and Implemented the Repetitive Manufacturing and Discrete Production Planning functionality in SAP R/3 4.6B Version across 10 unique businesses across the globe. Following key functionalities were rolled out
   * MRP Area to capture demand by Production Line; schedule production by MRP areas; and satisfy customer requirements that are production line specific. MRP Areas were also used to do deterministic planning on components that are stored in tanks dedicated to production lines.
   * MRP for planning of Semi finished goods and component materials involving both deterministic & reorder point planning methods including automatic calculation of safety stock and reorder levels; MRP for planning replenishment of finished goods at distribution centers.
   * Production Execution in repetitive manufacturing, and Discrete Manufacturing including automatic batch determination of components, Stock Determination to handle split valuated materials, back flushing of components and activities.
   * Available to Promise (ATP) functionality for Sales Orders and Deliveries with and without Total Replenishment Lead Time (TRLT) for Make to Stock and Planning with Final Assembly Planning strategies; ATP for all component materials.
   * Vendor Managed Inventory (VMI) solution to address both the Customer Owned Inventory and BP owned inventory scenarios; design involved use of custom program to calculate inventory levels at the Customer location by obtaining feeds from tank readings at Customer locations.
   * Batch Classification with numerous batch characteristics that represent the inspection characteristics of the batches; heart of the batch selection optimisation and product substitution.
2. Developed the process design, configured and delivered Quality Planning, Quality Inspection, and Quality Certificate functions in SAP R/3 4.6 Quality Management (QM) module. Following key functions were implemented:
   * Set-up configuration and master data for Inspection Lot Creation, Results and Defects Recording, and Inspection lot completion; Process comprised of In-process inspection (IL 13) and Goods Receipt inspection (IL 04), and Stock Transfer inspection (IL 08) for Fluff and Granulated products.
   * Developed the process design for several custom developments involving transferring of inspection results associated with intermediate products to finished product, calculation of weighted average values for batch characteristics during the batch combining process, transfer of in-process inspection results to batch characteristics, and copying of characteristics values from Bulk to Packaged product at the time of Usage decision.
   * Managed the conversion of QM master data, which consisted of Code Groups, Selected Sets, Master Inspection Characteristics, Inspection Methods, Inspection Plans, QM Work Centers, Certificate Profiles, Certificate Profile Assignment, and product specification.
   * Set up the configuration and master data necessary for Certificate of Analysis (COA) printing, which included setting up of Certificate Profile and Certificate Profile Assignment; set up included setting up of access sequence to load certificate profiles by Material/Customer, Customer/Material Group, Material/Customer Group, and Material.

**SAP America Global Training Centre – November 2000 to March 2001  
APO Instructor**

Instructor for APO Supply Network Planning (SNP) 3.0 module; Responsible for designing and developing training materials, configuring the system for client business scenario demonstrations; Scope of functionality included all SNP 3.0 functionality

**MEMC Electronics, St. Louis, MO – June 1999 to September 2000**

**PP Consultant**

Team member of the global Production Planning and Execution team; Responsibility included design and delivery of SAP PP (3.1H)solutions across 6 manufacturing sites in North America, Europe and Asia Pacific. Global consulting lead for SAP to MES integration; Scope of functionality included Capacity Planning, Detailed Scheduling, Production Orders, Integration with Advanced Planning and Scheduling tool MIMI, Integration and interface to Manufacturing Execution systems.

**Coors Brewing Company, Golden, CO – May 1998 to June 1999**

**PP/PP-PI Consultant**

Team member of the Production Planning team; Responsibilities included design and delivery of production planning (PP/PP\_PI) solutions in SAP R/3 3.1H. Scope of functionality included PI sheets for Manufacturing Execution, Process Management, Process Order Management, Material Requirement Planning, Long Term Planning, Capacity Planning and Detailed Scheduling.

**General Foam Corporation – August 1994 – March 1998**

**Industrial Engineering Manager**

Responsible of proposing and justifying productivity improvement initiatives; Responsible for managing and delivering productivity improvement initiatives some which included ERP application selection, ERP application design and delivery, identifying process improvement opportunities including manufacturing automation.

**Mid America Manufacturing Technology Center – January**  **1992– August 1994**

**Industrial Engineer**

Offered consulting services to small companies on Computer Aided Design (CAD), Facilities Planning and Design, Time and Motion Study, Inventory Management, Forecasting, Planning and Detailed Scheduling techniques and tools, Statistical Process Control (SPC), Industrial Safety and Ergonomics

**Rane Madras Limited – India – June 1990 – January 1992**

**Manufacturing Engineer**

Responsible for managing the manufacturing line for automobile Wheel Ends, Rocker Shafts and Worm and Nut assembly line; Responsibility included meeting production targets, identifying manufacturing methods and process improvements to increase throughput; Developing CNC programs for CNC turning and machining centers.

**EDUCATION**

M.S., Industrial Engineering

B.S., Mechanical Engineering

**CERTIFICATIONS**

1. SAP Certified Production Planning Consultant