



# Certified Professional in Demand Forecasting Workshop

**CPDF\_II : Smart Forecasting (Master Level – Demand Forecasting Methodologies and Performance Measurement)**

## Key Learning Objectives:

1. Establish a framework for demand forecasting in the supply chain
2. Introduce a four-step process for streamlining the forecasting cycle
3. Define, interpret, visualize major demand forecasting techniques.
4. Identify appropriate accuracy measures for evaluating demand forecasting methods and models.
5. Complement established approaches with non-traditional methods in forecasting model development and evaluation



Program is endorsed by the International Institute of Forecasters (IIF)  
[www.forecasters.org](http://www.forecasters.org)

# CPDF\_II Master Level Program

## Day 1

### Part I – The Demand Forecasting and Planning Cycle in The Supply Chain

What is demand forecasting, Planning and Management  
Why is demand forecasting so important?  
Role of demand forecasting in the supply chain  
Establishing A Forecasting Cycle– PEER Model  
Factors affecting demand forecasting (good factors)  
**Computer Workshop 14**– Targeting the Environment: Creating Drivers of Demand for Product/Service Forecasting. Cases: Automobile and Energy Industry

### Part II – Data Framework for Creating Forecast Decision Support Systems

Ways to characterize demand activity  
Time horizons, lead-times and dimensions of a forecast  
Units of measures used to quantify demand  
A framework for secure data and information management  
Determining customer forecasting needs by organization  
Internal factors likely to influence forecast  
Designing a demand forecasting framework for data  
**Computer Workshop 15**– Large-Volume, Data-driven Baseline Forecasting With Exponential Smoothing. Cases: Ice Cream and Tourism Industry

### Part III – Big Data: Mining, Exploration and Quality

Predictive analytics– something is new?  
Methodologies for large-scale data exploration  
Decision Trees – progressive class distinction  
Basic statistical tools for summarizing data  
Traditional and nonconventional measures of variability  
Intelligent dashboards  
Data framework for on demand planning (SaaS)  
Identifying criteria for assessing data quality  
Handling exceptions in datasets  
Demand Forecaster as Data Scientist  
Data Process Framework and Checklist

**Computer Workshop 16** –Data Exploration, Outlier Correction, and Predictive Visualization. Case: Healthcare Industry

### Part IV – Forecasting with ARIMA Time Series Models

Creating a flexible model building strategy for ARIMA Models  
Recognizing forms of stationarity (level) and non-stationarity (trending and seasonal) in time series  
Detecting autocorrelation in time series  
Identifying non-seasonal ARIMA Models  
Comparison of forecasts with prediction limits  
Implementing non seasonal ARIMA Models  
Creating an ARIMA modeling checklist

**Computer Workshop 17**– How to Create Short-term Trend Models:. Case: Residential Construction Industry

### Part V – How to Create Seasonal Forecasts and Seasonal Adjustments

Decomposition programs for seasonal adjustment  
Identifying and implementing seasonal ARIMA Models  
Creating Waterfall charts for forecast model evaluation  
Forecast test measures for multiple ARIMA models  
Best practices for ARIMA modeling

**Computer Workshop 18** – Forecasting with Seasonal ARIMA Models. Case: Telecommunications Industry

## Day 2

### Part VI – Designing Regression Models for Forecasting

Finding a linear association between two variables  
Checking ordinary correlation with a nonconventional alternative  
What are regression model assumptions?  
What is a “best” fit?  
The least square assumption demystified  
The ANOVA table output for regression analysis  
Paring the output for use in forecasting  
Creating forecasts and prediction limits

**Computer Workshop 19**– Using Causal Models for Advertising and Promotion Analysis

### Part VII– Working with Residuals and Forecast Errors to Improve Forecasting Performance

Dealing with lack of normality in time series regression modeling  
Looking out for “Black Swans”  
How good was the fit and what does it say about forecasting ?  
Dealing with nonrandom patterns in residuals  
Impact of error term assumptions on prediction interval determination  
Creating prediction intervals for forecast monitoring  
Using prediction limits for quantifying uncertainty in forecasts  
A checklist for multiple linear regression

**Computer Workshop 20** - Taming Volatility— Root Cause Analysis and Exception Reporting. Cases: Ice Cream and Tourism Industry

### Part VIII - Improving Forecasts with Subjective Judgment

What is structured judgment?  
When to make judgmental adjustments to forecasts  
Judgmental traps in forecasting  
The Delphi Method  
The forecasting audit  
A framework for setting forecasting standards  
Functional integration  
Performance measurement  
Planning for process improvement  
Overcoming barriers and closing gaps  
Forecast horizon  
Melding quantitative and qualitative approaches for forecast development and process improvement  
Creating the final forecast with Change and Chance numbers

**Computer Workshop 21**– GLOBL Case: Simulating The Forecasting Cycle.

Global Electronics Manufacturer (a fictitious company) provides consumer electronic technology products to a broad range of customers worldwide  
Participants can use their own data and prepare forecasts and prediction limits using univariate exponential smoothing and multiple linear regression models.

**Workshop Take-Aways and Closing Remarks**

# CPDF® Certification Curriculum Overview

Each Level of the CPDF® program consists of both instructor-led workshop training hours, and independent hours to be accomplished through self-paced e-learning environment. The successful completion of each level will qualify participants to earn a certificate, CPDF levels & certificates are described below:

## Basic Level : *Certificate in Demand Forecasting*

90  
Training  
Hours

15 hours hands-on workshop

75 hours, 6 work sheets E-learning

## Master Level : *Certificate in Demand Forecasting*

60  
Training  
Hours

15 hours hands-on workshop

45 hours, 6 work sheets E-learning

## Professional Level: *Certificate in Demand Forecasting*

50  
Training  
Hours

20 hours hands-on workshop

30 hours, 6 work sheets E-learning

### Program Requirements:

- College degree or Job experience
- Reasonable experience in MS Excel
- Acceptable level of English language

### Program Assessment:

- Full attendance of hands-on workshops is required
- Successful submission of required worksheets through e-learning system
- CPDF is not a test-based program.

**It's a hand-on workshop. Please bring your own laptops to run the computer exercises!!**



## Who Should Attend?

Demand Forecasters  
Supply Chain Managers  
Demand planners  
Supply planners  
Production Managers  
Operations Managers  
Financial analysts  
Market analysts  
Researchers  
Forecasters  
Economists  
Strategists  
Marketing & Sales managers

## WHY STUDY WITH US?

1. International trainers
2. Trainers have long and global experience in demand management and forecasting.
3. High quality and excellent style of delivery with participative debate and discussion, case studies.
4. E-learning service through a unique Online Web Platform designed exclusively for CPDF Students.
5. 100% Student pass rate, endorsed by past and present students in the region.
6. Abilities to enhance local demand data with international experience and theories.
7. Interchange demand forecasting experience management with local culture and knowledge.

## Our Training Partner



Delphus Inc. ([www.delphus.com](http://www.delphus.com)) is a privately held corporation, headquartered in Morristown, New Jersey. Established in 1987, the company has been dedicated to providing strategic market analyses, forecasting software tools and data mining solutions for sales and marketing managers, inventory and production planners in manufacturing, distribution, retail firms and hospital management operations.

Delphus clients list contains names like: Kodak, Lucent Technologies, IBM, TAP Pharmaceutical, Pfizer, and more.

## Program Leader

**Dr. Hans Levenbach** is the founder and President of Delphus Inc., which specializes in predictive-analytic solutions for demand planning in supply chain organizations. He is also an elected Fellow, former President and Treasurer of the International Institute of Forecasters (IIF). He has been a member of the editorial board of Foresight Journal, the practitioner journal published by the IIF. He is also a member of APICS, INFORMS, American Statistical Association and an elected member of



The International Statistics Institute.

Hans has been instrumental in designing the "Certified Professional Demand Forecaster" (CPDF®) curriculum

## What is The CPDF®?

This is a certification program for demand forecasters and planners working in supply chain industries. The International Institute of Forecasters (IIF), a thirty-four year-old non-profit membership organization whose purpose is to advance knowledge and research in forecasting, has endorsed it. The CPDF program is a 200 hours curriculum comprised of three modules, I\_Basic, II\_Master and III\_Pro. Certification can be earned at each of the three levels. The CPDF® qualification will address multidimensional job roles in demand forecasting such as data display and validation, database management, dashboard display, understanding quantitative and qualitative projection techniques, model creation and execution, forecast accuracy measurement, model and forecaster performance analysis, organization, and collaborative planning.

# CPDF\_II Master Level Program

## How to Register?

E-mail: [smartage@smartage.com.tr](mailto:smartage@smartage.com.tr)

Web : [www.smartage.com.tr](http://www.smartage.com.tr)

Phone: +90 312 2650615

Fax : +90 312 2408263

**Program Fees:** CPDF Master Level II -  
*Certificate in Demand Forecasting Practice*

2 Days Hands-on Workshop

USD \$995

E-Learning Exercises

USD \$495

Program Fees cover workshop manual, FREE excel Add insns, 50% book discount : *Forecasting: Practice and Process in Demand Management*, Discount on a one-year subscription to IIF Practitioner Journal (*Foresight*), and coffee/tea breaks with lunch.

**Group and Early Birds Discounts Available**

**Registrations are made on first-come first-served basis**

## Participants Information

1. Name:.....

Company:.....

Job Title:..... Email:.....

Tel:..... Fax:..... Mobile:.....

2. Name:.....

Company:.....

Job Title:..... Email:.....

Tel:..... Fax:..... Mobile:.....

## Registration and Payment Terms

The registration form has to be sent registration. The registration process is not complete until the registry fee are paid in the bank account most lately 7 days to complete the registration. The registration is completed when sent with both "Registration Form and Bank Receipt". (If the registration form is sent for pre-registration and there is not discussed any change, only bank receipt can be sent.)

## Cancellation Policy

Attendants can cancel their registrations 15 days before the beginning of training. If the attendants cancel their registrations less than 15 days before the beginning of training, 50% of the registry fee is refunded. However, there will not refund if the attendants cancel their registrations less than 10 days before the beginning of training.

The training program can be bring forward or cancel the training for justifiable reasons by SmartAge Inc. If the training is cancelled, then the registry payments will refund to attendance.

**Interested to run  
this Program in-house?**

[Just Contact Us](#)



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Ankara TURKEY  
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