# LTE - Long Term Evolution

## LTE Training Module (3 Days)

Eagle Photonics
Fiber optics Experts

- LTE-EPS Overview
  - Reasons driving to the LTE/EPS project.
  - Review of 3GPP specification work concerning LTE/EPS.
  - Identifying the major steps in Network Architecture Evolution toward an LTE/EPS
  - Key features of LTE/EPS.

- LTE/EPS Network Architecture
  - Network Architecture evolution from HSPA to LTE.
  - Major subsystems on an LTE/EPS network
  - Network Elements in an LTE network.
  - Key functions of LTE Network Elements.
  - Standard interfaces and protocol stack implementation.

- LTE Air Interface
  - Basics of LTE Air Interface
  - Identify maximum bit rates for LTE.
  - Distinguish different LTE UE categories

a. Physical Layer: Moving Antennas
- MIMO Concepts
- Space Time Diversity Coding and Spatial Multiplexing

b. Physical Layer Downlink: Orthogonal Frequency Division Multiplexing - OFDM3

- Proposed use in LTE
- Changes to Modulation
- Turbo Coding Refresher

c. Physical Layer Uplink: SC-FDMA2
- Overall Description
- Benefits and Capabilities

d. Physical Layer: Radio Interface Channels
- Evolved UMTS Terrestrial Radio Access (E-UTRA)
- Radio Channels and their Usage

e. Layer 2:
- E-UTRAN Entities
- Mobility Management
- The Application Protocol Interface X2

- Handover and Mobility to Non-3GPP Technologies

f. Security Aspects

- Principles
- Access Security Management Entity (ASME)

➢ Further advances in LTE