

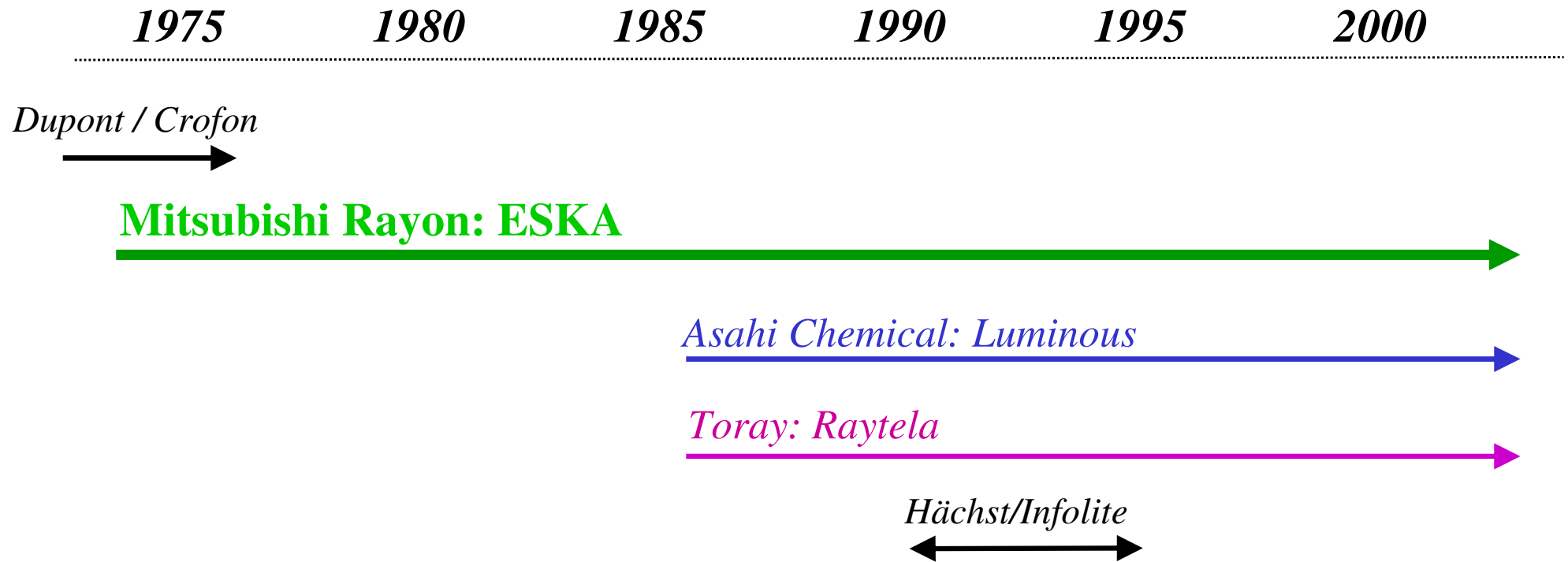
***-The latest topics of Polymer Optical Fibre –
“POF technology for Home-networking applications”***

2009 Feb. 6th

Kazuki Nakamura, Mitsubishi Rayon Co., Ltd.

Josef Faller, homefibre digital network gmbh

POF suppliers



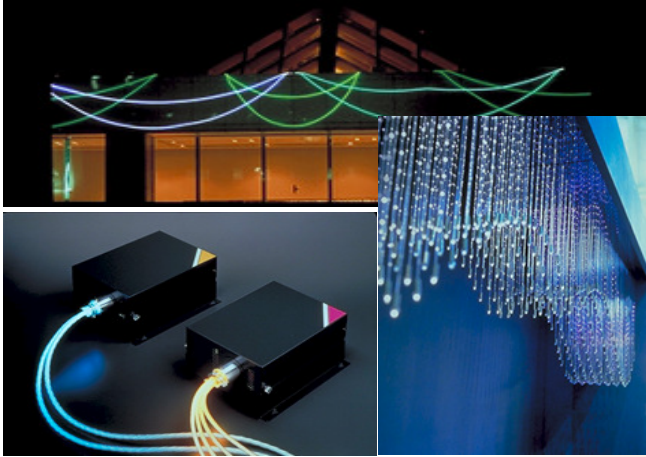
Mitsubishi Rayon

has more than 30 years, longest history supplying Plastic Optical Fibers

has highest market share in the world-wide Plastic Optical Fiber market

has highest market share in the automotive MOST application market in the world

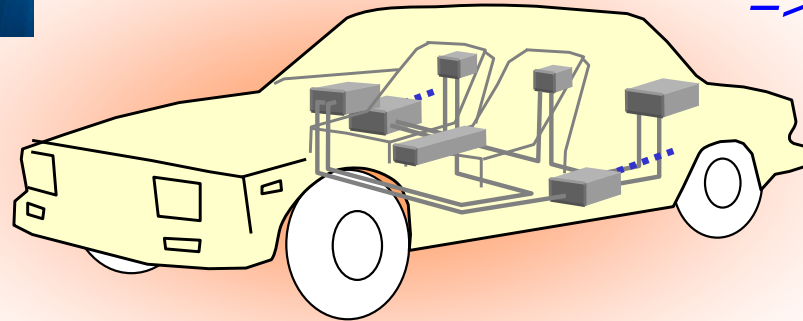
Applications with POF



Lighting & Illumination



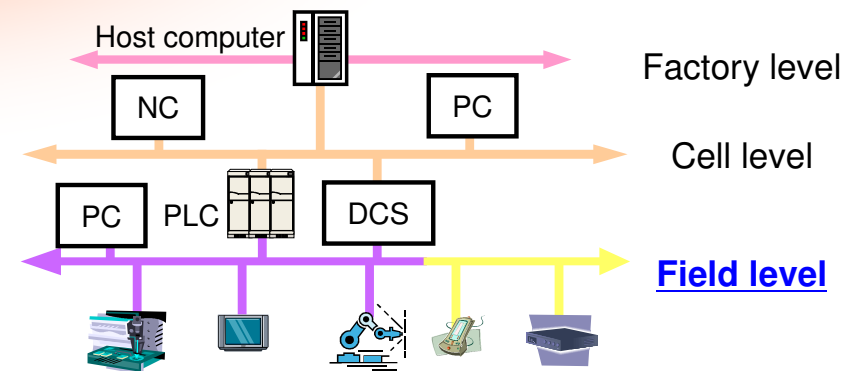
**Consumer electronics
=> Home networking**



Automotive networking

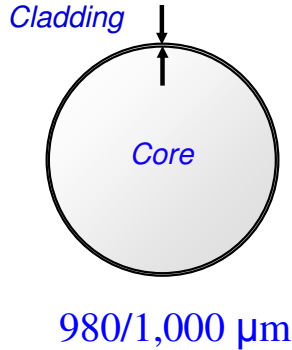




Sensor, machine vision



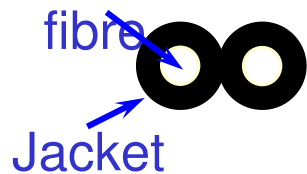
Field-Bus, Machine Control

Optical Fiber types for Data Transmission

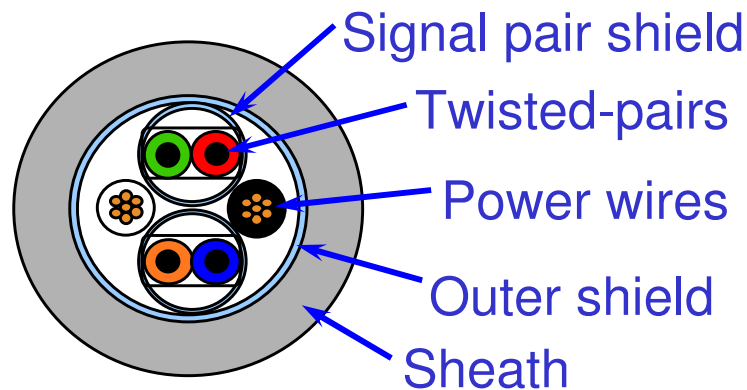
Core/Cladding	Plastic/Plastic	Glass/Plastic	Glass/Glass
Known as	POF	PCF (HCS/HPCF)	GOF
Bandwidth (MHz-km)	10 (3)	20	300-1500
Fiber (corer) diameter (μm)	(250) 750-1000	125-600	50-100
Transmission distance	Short	Medium	Long
Attenuation (dB/km)	250	6	4
Numerical Aperture	0.50	0.37	0.30
Wavelength (nm) of the source	650	650, 850	1300,1550
Cross sections of typical sizes	 <p>980/1,000 μm</p>	 <p>200/230 μm</p>	 <p>62.5/125 μm Singlemode Multimode</p>

Advantages compared with copper media

- **Immune to EMI** susceptibility and radiation along the media
- Radiation free along media
- Input/output electrical isolation
- Can not short-out, get electrical surge
- **Immune to lightning strikes**
- Will not produce sparks causing explosion and fire
- **No ground loop interference**
- Smaller cable and less weight than copper
- **Large core diameter - easy termination**
- Visible light – easy „operation“ control
- 100 Mbps today > 1GBps in Lab



POF (8g/m)



STP (70g/m)



Requirement for Home-Networking Cable

- Lifetime for back-bone
 - POF Lifetime: more than 100 years with room temperature
 - Mature and approved Technology
- Cost competitiveness
 - Total system installation cost
 - Investment per IT-outlets per home
 - Investment per Mbps
 - Operation cost / power consumption
- Structural
 - Duplex, Thin & Aesthetic with less light leakage
 - Metric Marking
 - High Quality Material (well controlled in terms of: purity of material, low dimension tolerances, small deviation, ...)
- Environmental
 - Low Smoke Zero Halogen
 - Carbon Footprint

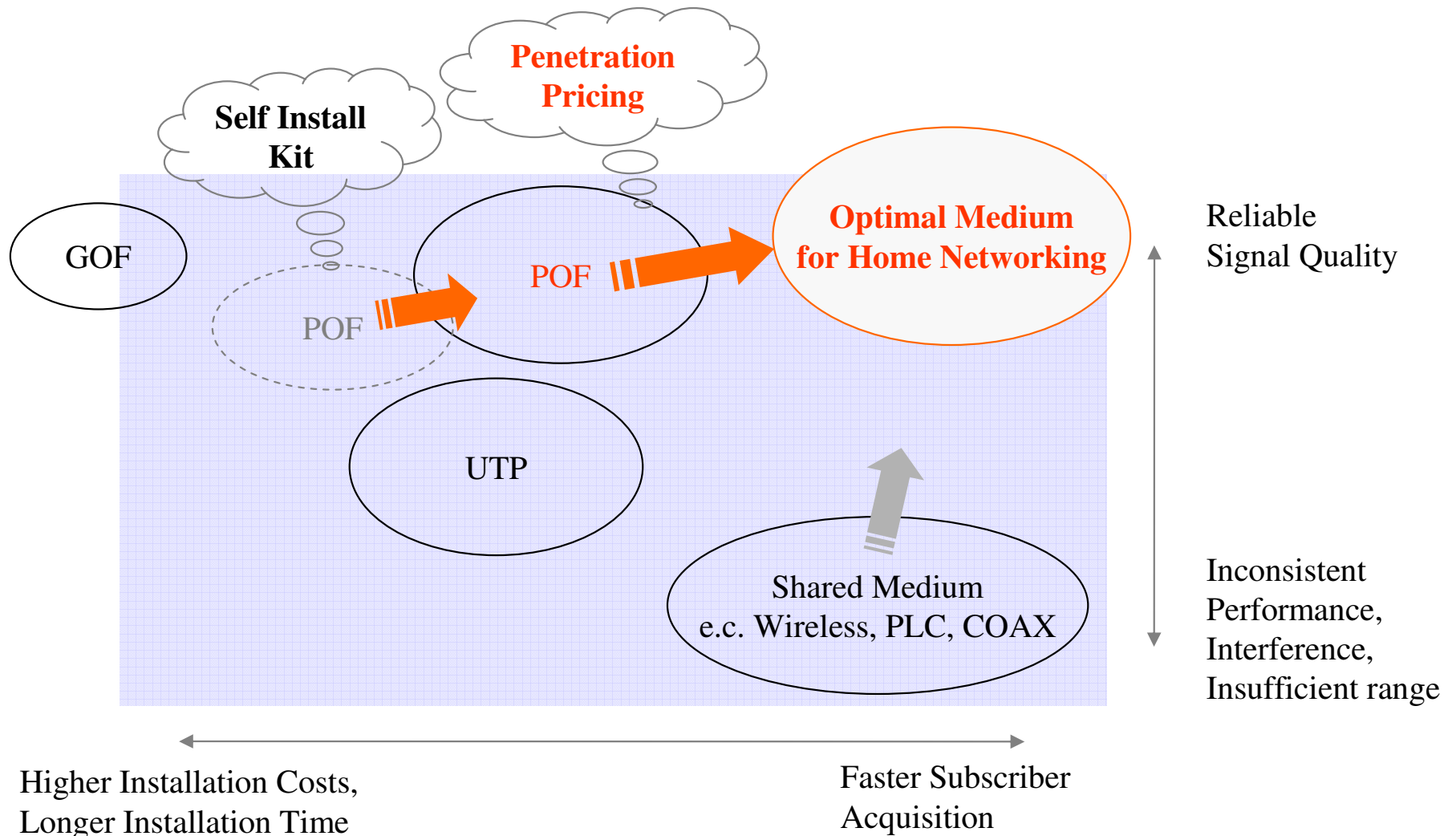
POF for Home-Networking, “RH” Series Line-up

- Numerical Aperture: 0.5
- Bandwidth: Typ. 90 MHz / 30m [Operation Temperature]
Typ. 60 MHz / 50m [Operation Temperature]
- Attenuation: 170dB/km [25□ 50%RH]
- Temperature Range: -55□ □ +70□ [in a Dry Atmosphere]

	Jacketing		
	Diameter	Color	Material
RH4002-1.5W *	Φ1.5	White	Polyethylene
RH4002-2.2W	Φ2.2	White	Polyethylene
RH4002-1.5	Φ1.5	Black	Polyethylene
RH4002-2.2	Φ2.2	Black	Polyethylene

* Double Jacketing also for 1,5mm white cable available (no light leakage)

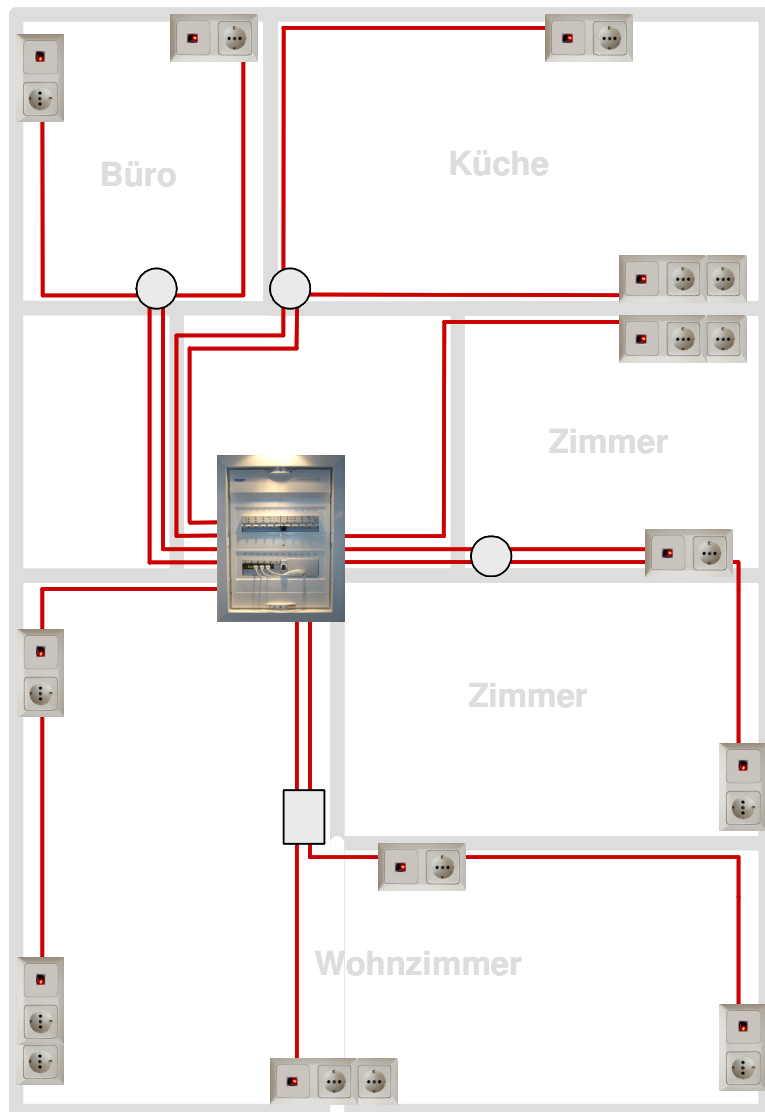
Requirement for H/N and Introduction scenario



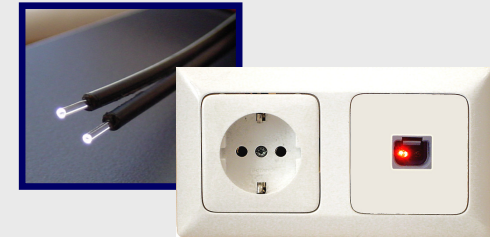
Encourage further POF deployment through Penetration Pricing.

A New Vision for a Home Network

Full Optical Home Network Infrastructure



Next Generation Integrated, Exklusive Network



- *Optical Interface at Main Power Outlet*
- *Easy Installation; Visible Light*
- *Radiation free – Immunity against EMI*
- *For New Constructions and Retrofitting*
- *Modular und Scalable Up Grade*
- *High Reliability*
- *Backbone for Wireless Clusters*

POF - Home Network Market & Vendors 2008

Interoperable Products

(IEEE802.3.u)

Avago

Comoss

DiMoto

ELI

Firecomms

Homefibre

Motorola

Netgear

Nyce House

Radiantech

Ratioplast

RDM

Rutenbeck

Siemens

Senko

Technetix

Thomson....

Electronic Links International to Debut Coaxial Adapter at OFC/NFOEC 2008
Posted February 15, 2008

The COAX ADAPTER is capable of transmitting digital signal up to 100 meters with a data rate up to 400 Mbps. The adapter is connected to the already installed coax wire with another coaxial cable.

**ELI
Electronic
Links**

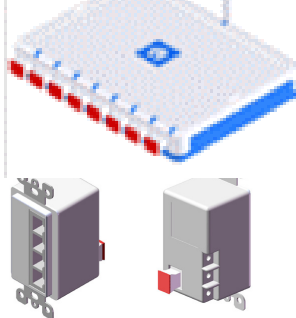
- HDMI OVER COAX via up to two HDMI copper ports
- OPTICAL 1394 FOR FAST ETHERNET via up to two OPTOLOCK ports



Reichle & DeMassari



Nyce House



DiMoto

Di Moto's residential product range



Senko



Homefibre / Rutenbeck



Netgear's Plastic Optical Fibre Ethernet Adaptor.

Luceat



Comoss



Ratioplast



Technetix



Thank you for your attention!

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