

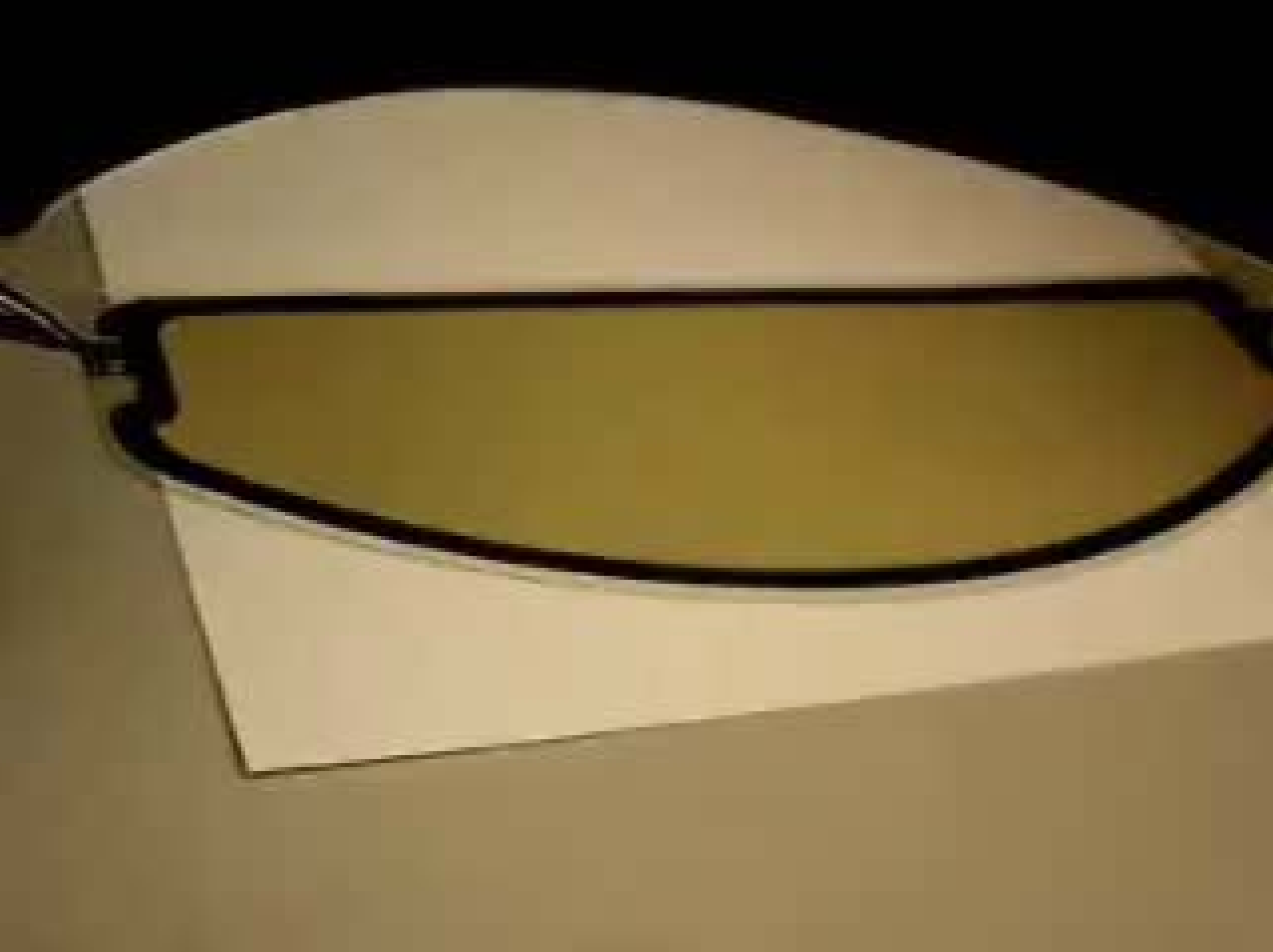


ChromoGenics
Sweden AB

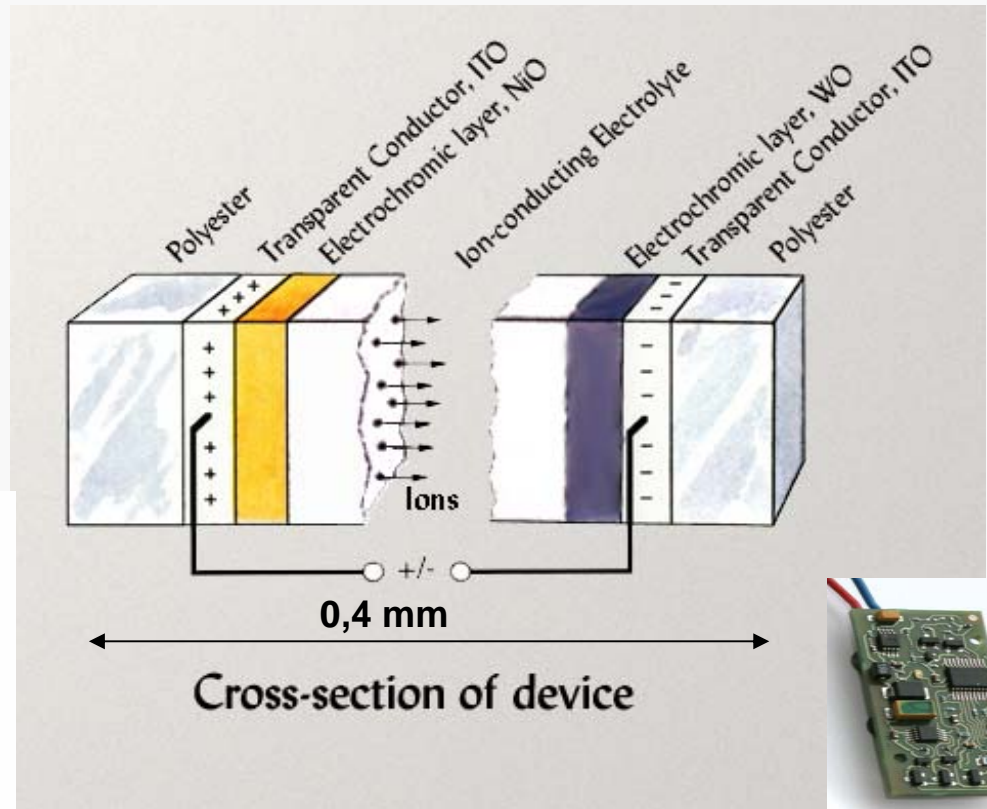
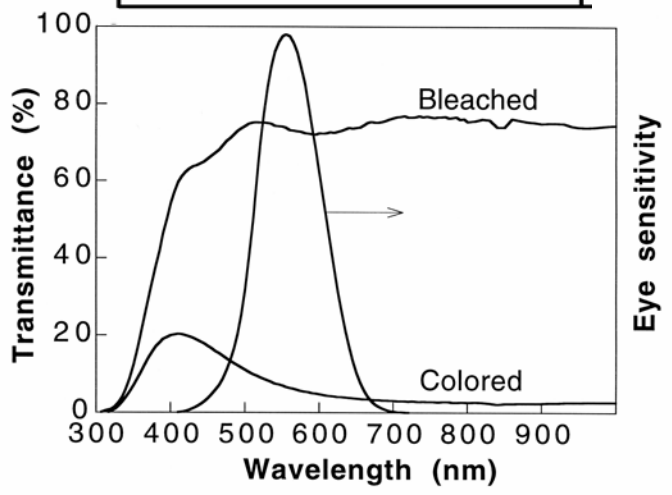
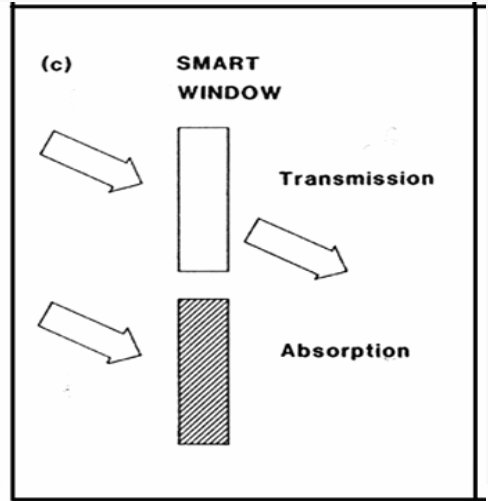
A CLEANTECH COMPANY

**ENERGY SAVINGS WITH
SMART WINDOW TECHNOLOGY**

Chairman Lars-Olof Bäckman



Intelligent electrochromic system



Control unit





Commercial




Residential

 **Building and transport are large energy consumers**

 **Buildings - 40% of total energy consumption in EU**

 **1995-2003 energy consumption in EU related to AC**

increased with an average of 17% per year

 **Smart window technology is a solution which can reduce energy consumption in buildings by as much as 50%**





Smart window technology

- **reduce energy consumption for AC**
- **and increase passenger comfort**

Electrochromic Devices (ECD)

- gradual transparency
- low voltage DC
- memory effect (low energy consumption)
- failure mode bright

COMPETITORS

Suspended Particle Devices (SPD)

- high voltage AC
- requires continuous power supply to operate
- failure mode dark

Liquid Crystal Display (LCD)

- bistable
- low maximum transparency
- poor optical quality (hazy) in blocking mode

- Unique knowledge in production of electrochromic **thin flexible foils**
- Generic technology with high optical quality and **low production costs**
- **Patent protection** of strategic materials, control strategies and processes for volume production

Spin-Out from Uppsala University

- 2005** Operations begun
 1st Customer agreement signed
 Financing Round A (2,5 MUSD Volvo & DuPont)
- 2006** Cleanroom production facilities
 Pilot plant installed
 Customer agreements
- Patents:** 5 granted + 3 filed + 2 pipe-line
- Board:** Founders, VC, Volvo, DuPont
- Advisors:** Technology & Production (US & SE),
 Production equipm (JP & US), Chemistry (SE)
- Staff:** 13
- University:** Research team

1. Application engineering, customer adaptation and product integration
2. In-house production - ramp-up
3. Production license agreement
 - Patent rights
 - Know-how
 - Application rights
 - Build and cut-over of plant (certified equipment and material suppliers)
 - On-going support
 - **Electrolyte produced and delivered by ChromoGenics**

- 2005** Company Operations begun
- 2005 Q3** 1st round of financing secured 3 MUSD
- 2007 Q1** Pilot Plant operational
- 2007 Q4** **\$!** First customer shipments
- 2008** Scale-up sheet processing capability
- 2008** 2nd round of financing (\$15 million)
SCALE-UP PRODUCTION R-2-R – INTERNATIONAL PRESENCE – TRADE MARK
- 2009 Q1** Positive cash-flow from operations
- 2009/10** Roll-to-roll volume production capability

- **Capital need 15 MUSD**
- **Purpose**
 - Migrate to high volume in-line production process
 - Establish international presence & partnerships
 - Build Trademark
- **Time frame mid 2008**
- **Investor profile**
 - Experience and networks for international expansion and production scale-up



MARKET POTENTIAL
20 000 000 000 USD / year



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