



**Industry – Academia Cooperation:
Industry's experience, challenges
and perspectives**

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Outline

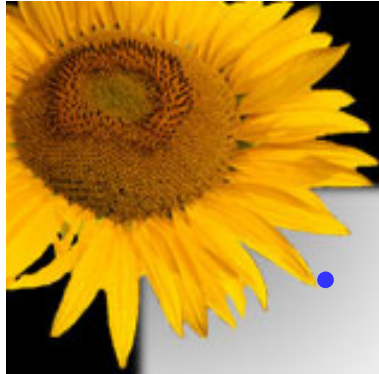
- Elin Biofuels at a glance
- Experience in industry – academia cooperation
- Challenges related to our experience but not only
- Suggestions and perspectives



Elin Biofuels



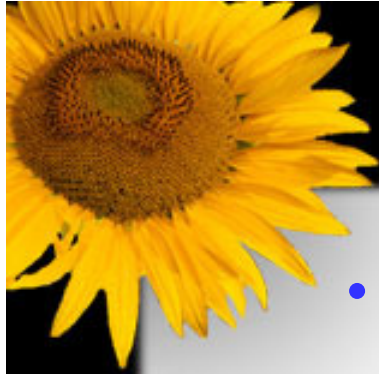
- **2005: foundation and start of biodiesel plant construction (80.000 m³/year)**
- **2007: first biodiesel production**
- **Raw materials: vegetable oils (~ 60%), used cooking oils and animal fat (~40%)**
- **Involvement in various research projects**
- **2010: Establishment of R&D department**
- **Interest in new investments**



Experience in Industry - Academia cooperation



- **ElinOil S.A. (mother company of Elin Biofuels) in collaboration with Laboratory of Fuels and Lubricants Technology NTUA participate in EU's programme Altener 1998-2002**
- **Subject: Penetration of biodiesel in the Greek market**
 - **Pilot Scale distribution of biodiesel in Thrace**
 - **Technoeconomic study for biodiesel plant**
- **Positive feedback and acceptance of the product by customers**
- **Potential for a profitable and environmentally friendly business**
- **Incentive for biodiesel production in Greece**



Experience in Industry - Academia cooperation



- **Since 2011 Cooperation of Elin Biofuels with CERTH (prof. K. Cyparissides and S. Bezergianni teams) and CRES in NSRF programme “Cooperation”**
- **Subject: Sustainable Production of biofuels and high added value biochemical products from lignocellulosic biomass**
- **On going programme**
- **Collaboration with prestigious institutions and very good communication**
- **Long term gains: opportunity for investment in new technologies, expansion of activities and knowledge**



Experience in Industry - Academia cooperation



- **Not only cooperation within programme frames**
- **Fuels & Lubricants Lab, NTUA (prof. Stournas team)**
 - **development of novel and patented antioxidant additive for biodiesel (ST-09)**
 - **Construction of pilot plant on site and use it in our biodiesel**
 - **Commercial exploitation**
- **Lab of Applied Thermodynamics, AUTH (prof. Samaras team)**
 - **Voluntarily produce and analyze laboratory biodiesel for tests in engine by AUTH, Toyota etc**
 - **Test of ST-09 on real engine conditions and comparison with reference antioxidants**

Challenges

- **Cooperation between such bodies is not always an easy going process due to various reasons**
- **Different worlds!**
- **Proper people to cooperate**
- **No “result oriented” cooperation**
- **Overcome negative reactions of companies collaboration with universities**
- **State support**

- **Private sector should pursue such collaborations:**
 - **Success stories from western Europe and USA etc**
 - **In the long term mostly benefits rather than waste of time and money and thus market consolidation of the company**
 - **Not focusing only to the short term benefits**
 - **Interactions**

- **Perspectives due to economic turmoil seem not to be rather optimistic, but....**
- **Learn from the past mistakes**
- **Workforce more highly educated: could help in that direction**
- **Way out of crisis improvisation and innovation**



Perspectives...

Look always on the bright side!!!





Thank you ! ! !