



**MATHEMATICS,
INFORMATICS,
SYSTEM PHYSICS**

LEDCLIPS

**Low cost CO₂ -CH₄ Gas sensor for
Biogas Plants BIOGAS MONITORING**

INFORMATIONS

MARKET

- Industry
- Environment
- Automotive

APPLICATIONS

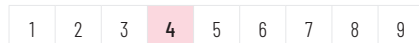
- Biogas plants monitoring
- Air quality monitoring
- Detection and quantification of gas pollutants exhaust for car manufacturers

INTELLECTUAL PROPERTY

- Brevet

TRL LEVEL

- Validation of the technology in laboratory environment



PARTNERSHIP

Co-maturation / Licence

LABO / RESEARCH INSTITUTION

- IES
- Université de Montpellier

REF. 0323-V1

TECHNOLOGY DESCRIPTION

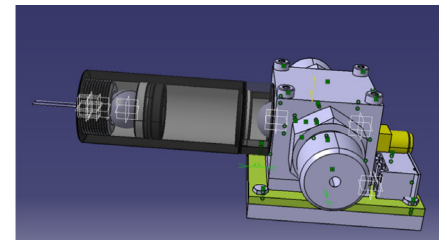
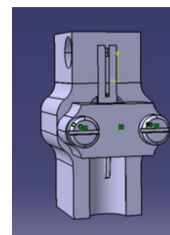
LedClips is a CO₂-CH₄ monitoring systems suited for biogas applications operating on the low cost yet efficient QEPAS- LED technology that guaranty accuracy, long-term stability and low cross sensitivity

KEY FEATURES:

- Technology QEPAS LED
- Time response 1s
- Fitted directly on the engine and in particular on the gas supply pipe
- Electronic not in contact with the gas
- Electronic ATEX compliant
- Low cost

DEVELOPMENT STAGES

Prototype opérationnel



		Valeur	Temps d'intégration
CH ₄ Setup 1	LOD	0,17%	204s
	Seuil %	1%	5s
CO ₂ Setup 1	LOD	0,18%	140s
	Seuil %	1%	5s
CO ₂ Proto1	LOD	0,25%	60s
	Seuil %	1%	3s

COMPETITIVES ADVANTAGES

- Time response
- Electronic circuits not in contact with the gas
- Electronic circuits compliant with ATEX European directive ATEX 94/9/EC
- Low cost
- Continuous mode operation