Amolab
Amolab, spin-off of the National Research Council in Lecce (Italy), is a research-based and high-tech company specialized in the development, design and production of innovative ultrasonic medical devices for non-invasive monitoring and diagnostic support of labor progression. Amolab offers clinicians an objective tool to assess fetal well-being during labor, overcoming limitations of current technologies in the field of obstetrics and gynecology.

Mission
Amolab’s mission is to provide to the medical community the first solution for a quantitative, automatic, non-invasive and safe monitoring of labor. Fetal progression through the birth canal may now be automatically assessed and objectively quantified avoiding operator dependence, thus drastically decreasing human error rates. Finally, midwives and gynecologists will be supported by an effective, innovative, and easy to use medical device.

Main Publications


Innovative technology, unique in the world and internationally patented for an user-friendly monitoring of labor progression.

SensUS is the unique non-invasive and reliable solution allowing an objective and real time monitoring of labor progression. It is an effective and user-friendly support for the operator in the objective identification of the cases in which a medical intervention is required.

In compliance with the standard
UNI EN ISO 13485:2012
ISO 13485:2003
Medical Device Class B
CE Mark

Safer childbirth
with SensUS
the new QUS device for midwives and gynecologists
SensiS is an innovative medical device based on a worldwide patented technology (Patent of the National US Research Council n. EP2375980), which allows automatic and real-time monitoring of childbirth labor progression.

Our technology integrates QUS hardware and software into an advanced device able to overcome the limitations of traditional ultrasound (US) investigations, essentially due to qualitative assessments and dependence on operator experience.

**Quantitative Ultrasound (QUS) Technology**

- **Trans-labial echographic scans**
  - SensiS allows a safe monitoring of childbirth from the beginning of labor until the delivery through non-invasive trans-labial US scans.
  - Acquired US signals and echographic images are automatically processed to measure fetal progression parameters, displaying them through highly intuitive 3D reconstructions and synthetic graphs of the temporal evolution of clinically relevant indicators.

- **High Accuracy**
  - Clinical validation studies demonstrated the feasibility and the very high accuracy of our adopted approach.
  - SensiS results showed an optimal agreement with the reference gold standard, represented by the manual US image segmentation performed by an experienced operator, as documented by the scientific data shown in the table below and published in international specialized journals.
  - The technology demonstrated to be well tolerated by patients, completely non-invasive, and more accurate with respect to routinely adopted manual inspections.

- **Clinical Indicators**
  - Average deviation
  - Correlation coefficient (r)

- **INDICI DI ACCURATEZZA**
  - **ANGOLO DI PROGRESSIONE (PA)**
  - **FETAL HEAD STATION (FHS)**

- **Advanced Algorithms**
  - Implemented algorithms are the most advanced synthesis of ultrasonic technologies available in medicine.
  - They allow a simple and continuous monitoring of childbirth labor, automatically providing quantitative and accurate measurements of the most important indicators of fetal progression:
    - Rotation Angle (RA)
    - Progression Angle (PA)
    - Fetal Head Station (FHS)

- **Clinical Validation**
  - Total duration: 20 seconds
  - Amplitude lab: Am lab
  - Rotation Angle (RA)

**Quantitative ultrasound for childbirth monitoring**