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Newsletter #7 - May 2019 - English version

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## Focus



Promotional video on Digi-NewB system demonstration

### A first system demonstration now operational

Three years after the start of the project, the Digi-NewB consortium is now ready to show a first demonstration of its AI-based sepsis risk decision-support system. First sepsis risk scores were successfully obtained during a 12h-recording of premature newborns at Rennes University

## News

### 2nd project review and positive feedback

The project was positively evaluated by two EU reviewers and the project officer on 13-14th May at Rennes University Hospital.

The system was demonstrated, showing the consortium capacity to provide a functional platform for the final version of the sepsis and

Hospital.

A **video** summarizes the latest project outcomes [here](#).

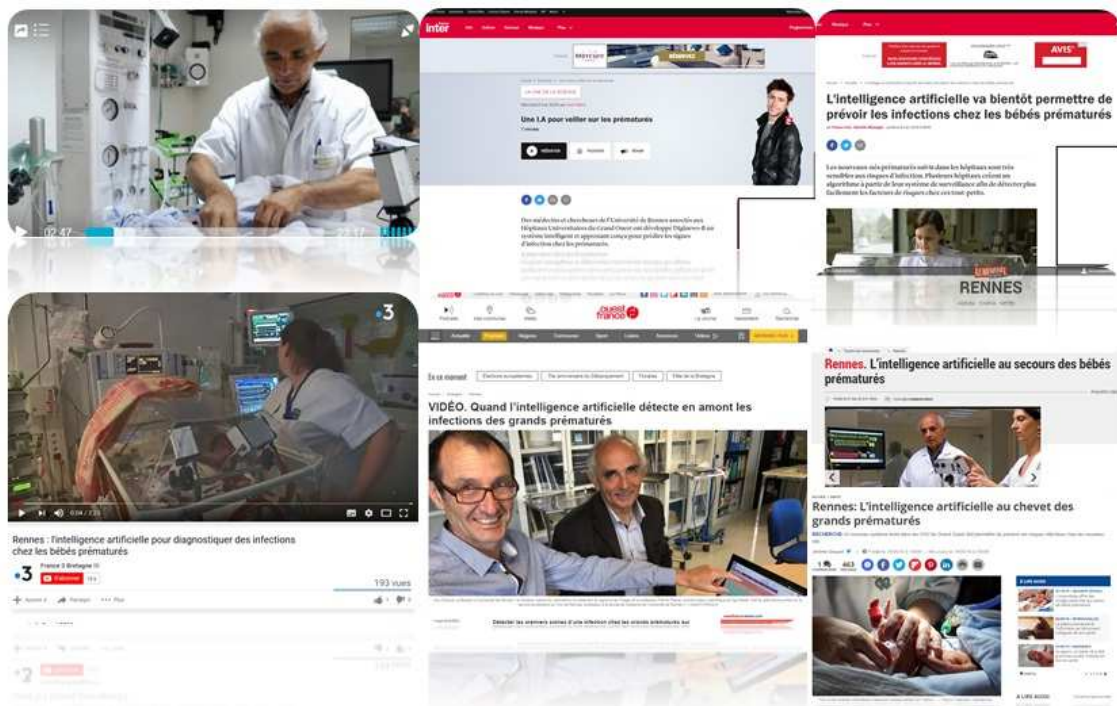
maturation decision-support system.

Next will be the final review in May 2020.

## A successful press event on 7th May

Digi-NewB published on 7th May a press release concerning the successful two first recordings of a premature newborn sepsis score at Rennes Hospital with the Digi-NewB system. This press release was covered by national and regional press:

- National radio programme France Inter ([news programme](#) and [scientific program](#))
- TV channels [France 3](#) and [TVR](#)
- Regional/Local press: [Ouest France](#), [20 minutes](#), [Sciences Ouest](#), [Le Télégramme](#)



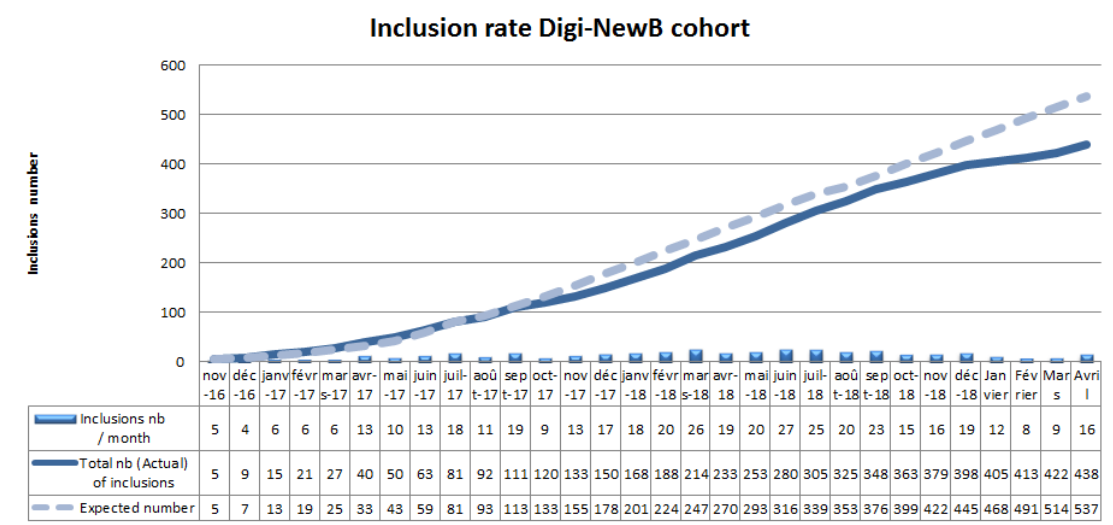
## Clinical study progress - updates

The clinical study achieved 453 inclusions by 23rd May. In particular:

- **Rennes**, first center to include and leading center, reached **150 inclusions**.
- **Angers**, second center included is reaching **75 inclusions**.
- **Nantes** reached **60 inclusions**
- **Brest** reached **64 inclusions**
- **Tours** reached **65 inclusions**
- **Poitiers** already reached **39 inclusions**.

Due to a change in the inclusions objectives, the trends are slightly decreasing.

Additional efforts are needed to keep focus on Late onset sepsis and cover as many newborns as expected in the study and achieve a higher sepsis prediction performance towards the project end.



## Feedback on 7th Consortium meeting in Rennes



The seventh consortium meeting took place in Rennes, at Hospital. The main meeting objective was to prepare for the review and fine-tune the demonstrator system.

On day 1, a full demonstration was shown to the partners, and a debriefing made afterwards to prepare for the review. Two working groups on the Sepsis objective were organised, followed by a plenary session on the exploitation considerations.

On day 2, a plenary session was organised on the Maturation objective, with the view to present the latest results and build the next steps for the system development. NUIG introduced proposals for new designs for the next or future prototypes.

More information [on the website](#).

## [Results publication]

### Parents and caregivers' perceptions of the use of live video recording in neonatal units, a focus group study

This abstract was accepted in American Paediatrics Societies conference, with following authors: Mazille N, LeBris A, Simonot P, Luherne M, Gascoin G, Harte R, Pladys P.

Objective of the study was to **analyze the perceptions associated with the use of video and sound recordings in neonatal clinical practice** in order to get information about **acceptability, limits and constraints** to be addressed. Nine focus group interviews were conducted in four neonatal units involving 20 caregivers and 19 parents. The transcripts were analyzed using the qualitative data analysis software, NVivo12 Plus. Data were triangulated using transcripts and field notes and analyzed using inductive, semantic thematic analysis.

Our general **conclusions** are that despite differences in their perceptions, parents and caregivers perceived video in care as useful and acceptable provided that measures are taken to ensure informed consent, data protection, and to limit potential negative impact for caregivers.

## [Results publication]

### Audio- and video-based estimation of the



## sleep stages of newborns in Neonatal Intensive Care Unit

This paper was published in **Biomedical Signal Processing and Control** journal in April 2019. Authors: S. Cabon, F. Porée, A. Simon, B. Met-Montoa, P. Pladys, O. Rosec, N. Nardi, G. Carrault

**Summary:** Premature babies have several immature functions and begin their life under high medical supervision. Since the sleep organization differs across postmenstrual age, its analysis may give a good indication of the degree of brain maturation. However, sleep analysis (polysomnography or behavioral observation) is difficult to install, time consuming and cannot systematically be used. In this context, development of new ways to automatically monitor the neonates, using contactless modalities, is necessary. Therefore, this study presents an innovative non-invasive approach to semi-automatize the classification of infant behavioral sleep states.

[Link to the publication](#)

## They talked about us

The project was at the top of the news lately.

**May 2019 :** Press event with articles in National radio programme France Inter ([news programme](#) and [scientific program](#)), TV channels [France 3](#) and [TVR](#) and Regional/Local press: [Ouest France](#), [20 minutes](#), [Sciences Ouest](#), [Le Télégramme](#).

**April 2019:** Abstract accepted at American Paediatrics Societies on "Parents and caregivers perceptions of the use of live video recording in neonatal units, a focus group study"

**Next communication events include:**

- [HIMSS Health 2.0 event](#) on 12th June 2019 in Helsinki, Finland
- [International Conference on Computer Assisted Radiology and Surgery](#) (CARS2019) on 17-21st June in Rennes, France
- [E-health awards](#) in Castres, France on 2-3rd July 2019 in which Digi-NewB belongs to the 12 finalists.



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