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Newsletter #8 - Nov. 2019 - English version

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Focus



Digi-NewB system running at Rennes Hospital

Digi-NewB enters the last project phase

After a successful review meeting in May 2019, the project is entering a crucial phase where both tasks of optimizing the system performance and validating the full demonstrator system on a long run will need to be jointly implemented. Partners met in October to set up

News

Digi-NewB on national TV programme France5

The journalists team from the 'Magazine de la Santé' for France5 TV programme spent the entire day in the Hospital in June 2019. They interviewed doctors, nurses and parents on the new system developed in Digi-NewB.

The 2-min documentary was broadcasted on 18th September and describes how Digi-NewB can help early detect infection and monitor maturation

the new calendar. The project started in March 2016 and is expected to finish in May 2020 (3-month extension requested to the EU).

of premature newborns.

The documentary was available on replay until the 18th October 2019.

Digi-NewB Advisory Board meets in Paris

Digi-NewB advisory board gathers experts from laboratories, end-users, clinicians and medical stakeholders to advise the consortium on scientific issues, ethics, regulation/standardisation requirements, market opportunities and dissemination. Their role is mainly to support the project team in making the upmost to deliver scientifically relevant results. On 1st October, the advisory board met for the third and final time. More information [on Digi-NewB website](#).



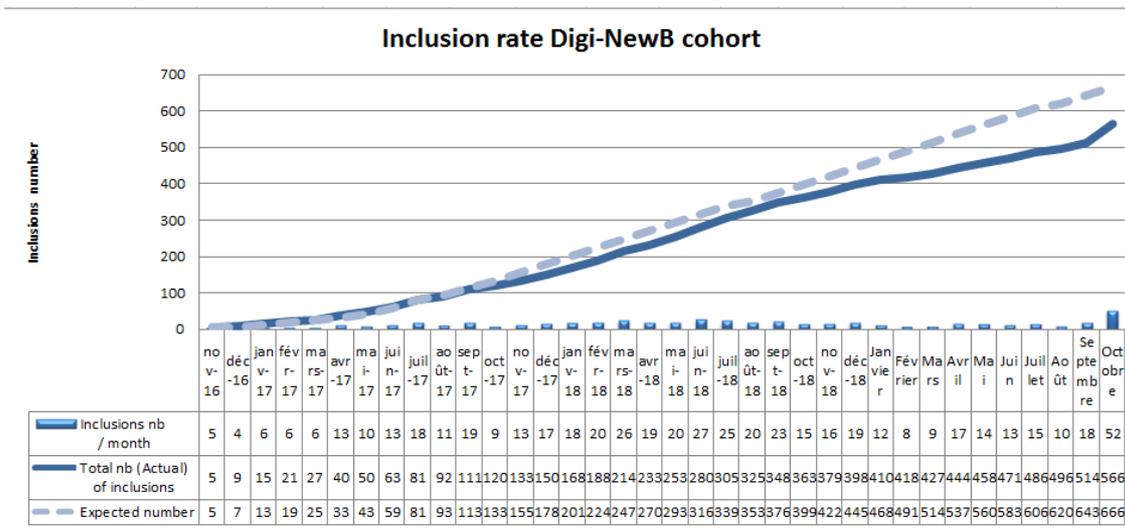
Clinical study progress - updates

The clinical study achieved 568 inclusions by 15th November. The detail per center is the following (figures updated to the 15/11/2019):

- **Rennes**, first center to include and leading center, reached **175 inclusions**.
- **Angers**, second center included is reaching **83 inclusions**.

- Brest reached **82 inclusions**
- Nantes reached **70 inclusions**
- Tours reached **75 inclusions**
- Poitiers (last center to participate to the study) reached **46 inclusions**.
- CaressPremi study patients: **37 inclusions**

In order to improve the system diagnosis performance, it was considered necessary to include data from patients included in the previous study called [CaressPremi](#). More information is available on [Digi-NewB website](#).



Feedback on 8th Consortium meeting in Paris



The eighth consortium meeting took place in Paris, at the Maison de la Bretagne. The main meeting objective was to build on the results of the latest reviewers' report and planning for collaborative work on the final project phase. The meeting was organised back to back with the final Advisory Board meeting (see above).

Day 1 was dedicated at presenting the full set of latest project results in the different WPs, and exchange on the next steps.

Day 2 was oriented at working on the evolutions of the user interface towards the project end, and on the perspectives and potential re-use of project results.

More information [on the website](#).

Two questions to...

Alpo Värri and Antti Kallonen, Researchers at Tampere University



Alpo Värri and Antti Kallonen are researchers at the [Faculty of Medicine and Health Technology](#) of [Tampere University \(TAU\)](#). In this interview, they explain their approach to early sepsis detection and the main challenges they face in this final project phase. [More details on Digi-NewB website](#).

[Results publication]

A preliminary study for automated detection of quiet sleep periods

This abstract was presented by L. Cailleau and accepted in the Francophone Days for Research in Neonatology in Paris (12-13th December 2019).

Objective of the study was to analyse quiet sleep and its relation with regards to the newborn maturation. The study aims in particular to describe the temporal organization of quiet sleep (QS) according to the percentage of time spent in QS and average duration of time intervals spent in QS. The ultimate aim was to study the maturation of QS as a function of GA and PMA. The main conclusion of the study is that **the temporal organization of QS is strongly correlated with Post-Menstrual Age**. It appears possible and clinically relevant to perform automated (accurate and reproducible) detection of QS.

[Results publication]

Automatic detection of movements in newborns

The abstract was published by Cabon et. al during the GdR ISIS days on 'Action, Face, Move, action and behavior'. The objective of this work, conducted as part of the European Digi-NewB project, is to propose a new non-invasive approach to monitoring in neonatal intensive care units (NICUs). The results obtained are encouraging and show that **it is now possible to imagine a new generation of monitoring based on non-invasive analyses to characterize the neurobehavioural development of the newborn**. [More information at this link](#) (in FR).

They talked about us

Digi-NewB was presented in several media and events in the latest months:

- French national TV programme **FR5 'Le Magazine de la Santé'** broadcasted a 3min documentary on Digi-NewB, on 18th September 2019. The replay is not available anymore but can be visualized on demand.
- [Digital Health day](#) in Nantes, sharing the **experience of Digi-NewB** as an 'AI/data-

driven' project, by Fabienne Porée (UR1/LTSI) (13/09/2019)

- Presentation of two posters at [JENS congress](#) in Maastricht, on the **perceptions of staff and parents on the cameras and letter of consent** by Nadia Mazille and Patrick Pladys (CHU Rennes) (17-20/09/2019)

- Presentation on the use of AI in an NICU in the [GIP SIB](#) in Rennes, by Patrick Pladys (17/10/2019)

- Presentation of an abstract on **automatic movements detection on newborns** in [GdR ISIS](#) in Paris, by Sandie Cabon (14/11/2019)

Upcoming:

- [French National Neonatology Days](#) : Round table on 'AI in early diagnosis of late onset sepsis' (26-27th March 2020)



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