

PERFORMANCE COMPARISON BETWEEN ***MICRO ELECTRO MECHANICAL SYSTEMS (MEMS) TRACKING TAGS*** AND OTHER LABELING STRATEGIES FOR CRYOTUBES

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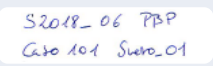
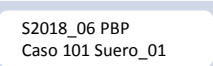


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Spanish Biobank Network (RNBB)

Fernando Gómez-Romano has no significant financial interest or other relationship with the manufacturers of the products or providers of the services that will be discussed or could, in any way, influence the study to be presented.

INTRODUCTION

- The Pulmonary Biobank Consortium is a hospital-based, thematic biobank
- Low sample income rate

LABELING METHOD		Suitable for low sample rate	Unambiguous reading	Functional reading T	Resistance Sterilization (134° C)	Additional equipment needed
Barcoded printed		✓	✓	∞	NA	*
Handwritten		✓	✗	∞	NA	*
Human readable		✓	✗	∞	NA	*
2D pre-printed system		✗	✓	< -80°C	✓	***
RFID tags		✓	✓	-50°C	NA	**
MEMS tags		✓	✓	-196°C	✓	**

COMPARISON OF LABELLING STRATEGIES: DESIGN

- Time consuming studied (seconds / cryotube [s]):
 - Registering and storing samples
 - Reading frozen cryotubes

Sample size = 20 cryotubes x 3 replicates



**Barcoded
printed labels**



$t = 70 \pm 1.76s$

$t = 5.0 \pm 0.06s$

**Handwritten
markings**

S2018_06 PBP
Caso 101 Suero_01

$\nabla t = 3s$

$\nabla t = 0s$

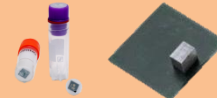
**Human
readable
printed labels**

S2018_06 PBP
Caso 101 Suero_01

$\nabla t = 7 s$

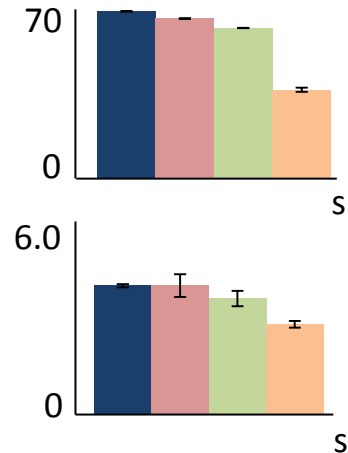
$\nabla t = 0,5s$

**MEMS
tracking tags**



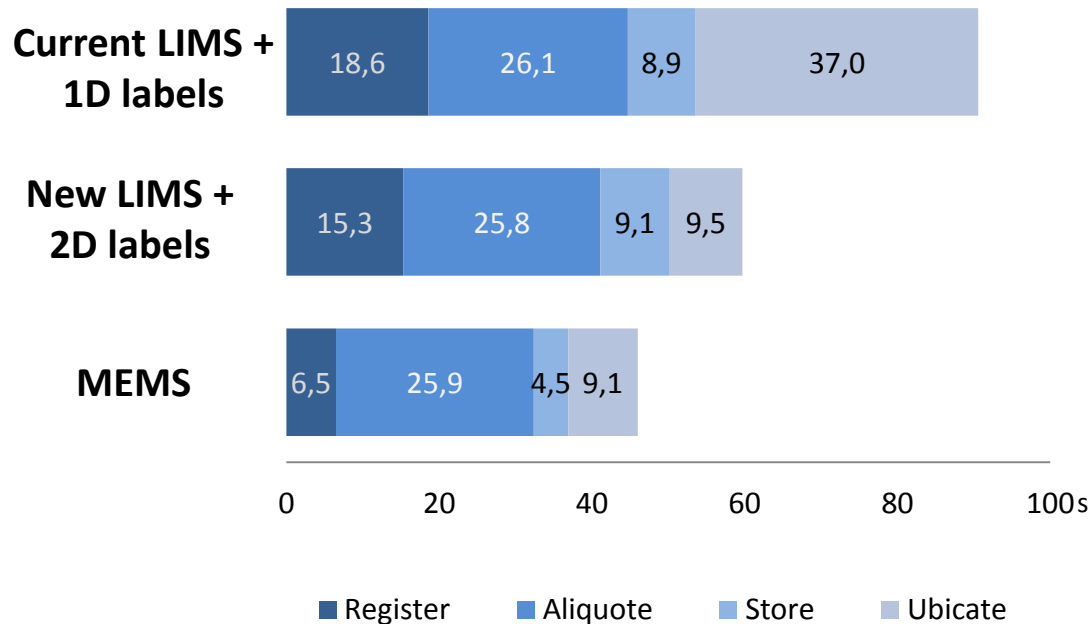
$\nabla t = 33s$

$\nabla t = 1,5s$

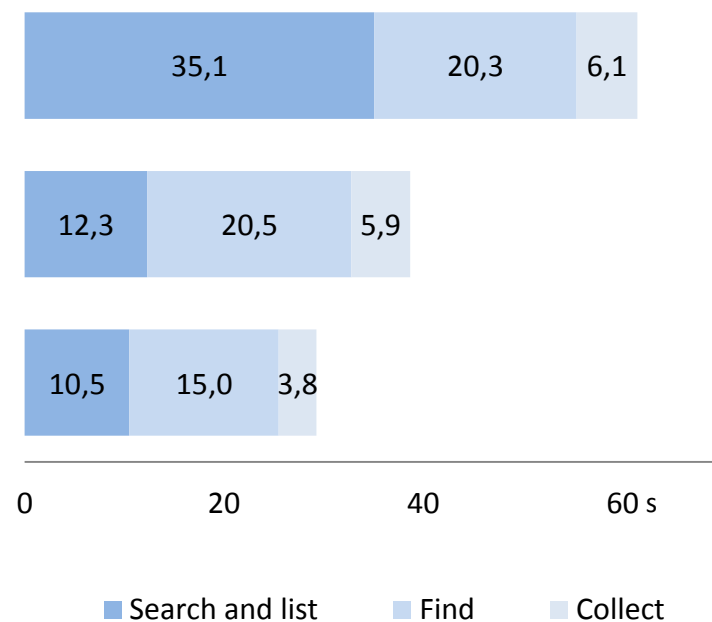


STORAGE & SHIPMENT SIMULATIONS

STORAGE



SHIPMENT



Thank you for your attention

This work has been performed by Gómez-Romano F, Esteva-Socias M, Campaner MA, Sánchez-Navarro AL, Villena C

The study presented here was supported by the Spanish Biobank Network (RNBB), CIBER.
The funding agencies had no direct role in the study.