

# ZCO-75: “Nature of Galvanizing Wettability on Advanced High Strength Steels”

**Research proposal**

**Galvanized Autobody Partnership (GAP)**

Available Project Budget & Project Duration: \$60,000 per year for a 3-Year Period

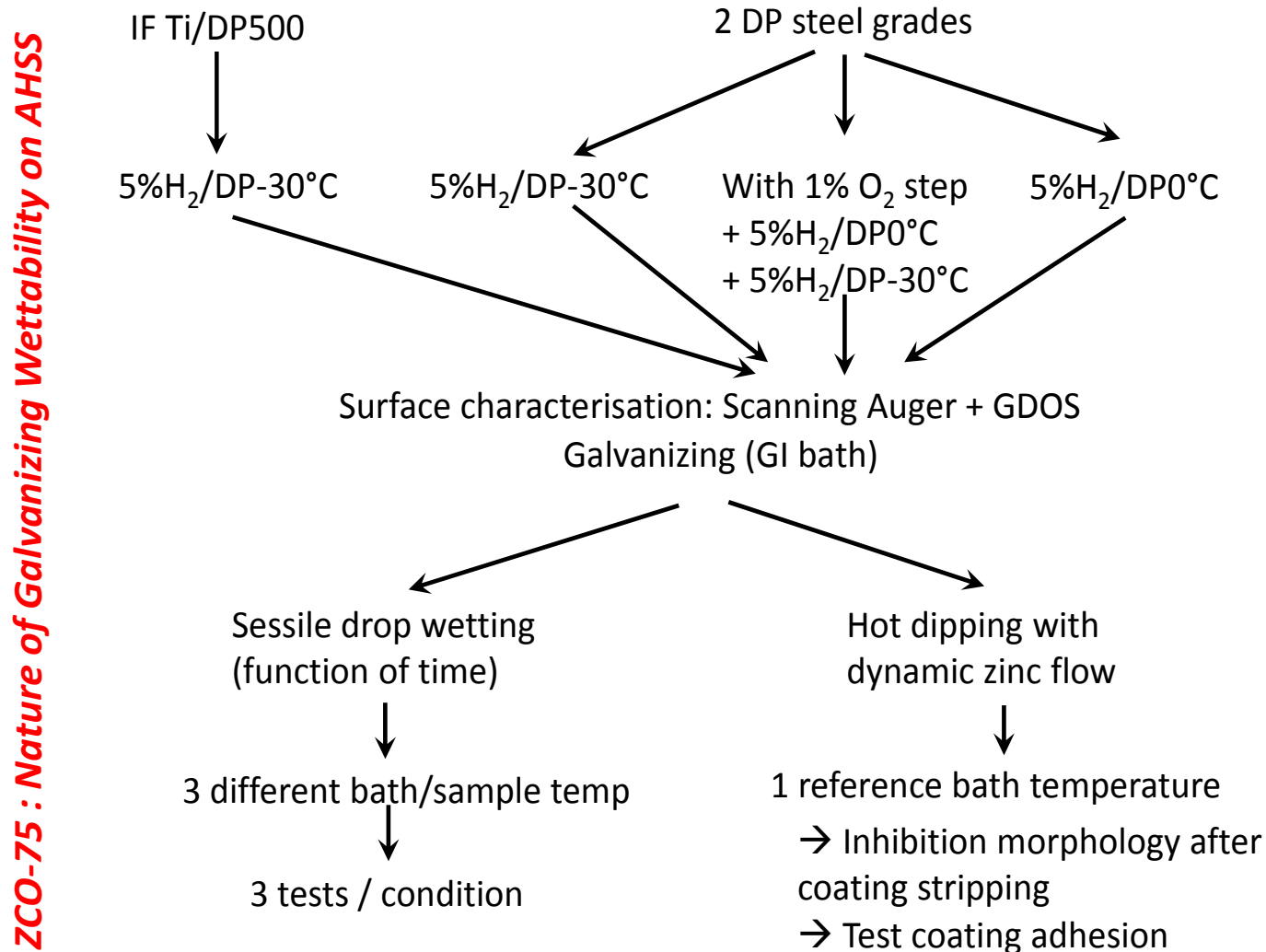
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*Project Associate: L. Bordignon*

Objective:

Determine the best annealing conditions for galvanizing DP steel grades

Work program



## Steel grades

2 reference steel grades (already delivered):

- IF Ti from AM
- DP600 from SSAB (Ari Peltola)

2 high alloyed steel grades (DP1000 / DP1200)

For ZCO-75: the request is more focused on steel chemistry  
with  $>2.5\% \text{Mn}$

- 1) High Al:  $1.5\% < \text{Al} < 2.5\% + \text{Si}, \text{Cr}$
- 2) High Si:  $1.5\% < \text{Si} < 2.5\% + \text{Al}, \text{Cr}$

For ZCO-76: the request is more focused on mechanical  
properties

- 1) DP1000
- 2) DP1200

 Is it possible to have the same steels for both studies  
to allow having a more complete steel characterisation ?

→  $\pm 10\text{m}^2$  each / full width or  $400 \times 400\text{mm}$  for the ZCO-75  
and ZCO-76

## The project description

| Description                                    | 1 <sup>st</sup><br>Sem | 2 <sup>nd</sup><br>Sem | 3 <sup>rd</sup><br>Sem | 4 <sup>th</sup><br>Sem | 5 <sup>th</sup><br>Sem | 6 <sup>th</sup><br>Sem |
|------------------------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| <b>1. Steel composition</b>                    |                        |                        |                        |                        |                        |                        |
| <b>2. MultiDip trials</b>                      |                        |                        |                        |                        |                        |                        |
| 2.1. Characterisation after the oxidation step |                        |                        |                        |                        |                        |                        |
| 2.2. Characterisation after full annealing     |                        |                        |                        |                        |                        |                        |
| 2.3. Characterisation after hot dipping        |                        |                        |                        |                        |                        |                        |
| <b>3. Wetting experiments</b>                  |                        |                        |                        |                        |                        |                        |
| <b>4. Reporting and traveling</b>              |                        |                        |                        |                        |                        |                        |