

Astroparticle Physics for Europe

APPEC Technology Forum 2018 – Challenges Session

Francesca Moglia

Veldhoven, 13.11.2018

Challenges Session:

- Brief presentation of the challenges
- Separation in working groups; challenge holders decide if leaving or staying
- Introduction of the methods for solution brain-storming
- Brain storming
 - Short training “working with metaphors”
 - Ideas collection
 - Sharing of ideas
 - Discussions and elaboration of different ideas

Challenges:

1) Challenge for the Precision Laser Inclinator (PLI) @CERN:

Feedback system timing capabilities

- a) Sub-challenge: reaction speed, frequency range of operation
- b) Sub-challenge: signal quality

2) Challenge for the beam transport @ European XFEL

Design of stable mechanics that matches the optical quality of the mirrors

- c) Sub-challenge: define specifications for vendors
- d) Sub-challenge: measure optics at nm-level
- e) Sub-challenge: measure performance of the optics in the beam-line
- f) Sub-challenge, if needed: define a device update to improve performance

Challenges:

- 3) Challenge for production of tiled large area dielectric discs and precise disc positioning @MADMAX
 - g) Sub-challenge: production of large area tiled discs
 - h) Sub-challenge: positioning and alignment of discs in MADMAX

Methods for solution brain-storming

- I am a „conscious incompetent“ in the moderation
- As my colleague said: “No matter how it will be, if either they will love it or hate it, in 5 years they will still remember it“
- Two methods possible:
 - Metaphoric representation of possible solutions with LEGO® Serious Play®
 - Written and methaphoric representation of possible solutions on flip-charts

LEGO® Serious Play® Process

SERIOUSWORK



This Process model has been created by the authors as developments of those made available by the LEGO® Group under a Creative Commons licence ('Attribution Share Alike'; see <http://creativecommons.org/licenses/by-sa/3.0/> for licence details. Feel free to share and use under the same licence. Enjoy!

Board 1

LEGO® Serious Play® Etiquette

SERIOUSWORK

A facilitator sets the question/challenge, time lines & guides the process.

Your LEGO model is your answer to the question/challenge.

There are no wrong answers.

Think with your hands. Trust your hands.

Tell the story of the model.

Listen with your eyes, as well as your ears.

Everyone builds, everyone tells.

Warm up exercises

How to be a **LEGO Serious Play** Ninja in a few minutes

Technical skills

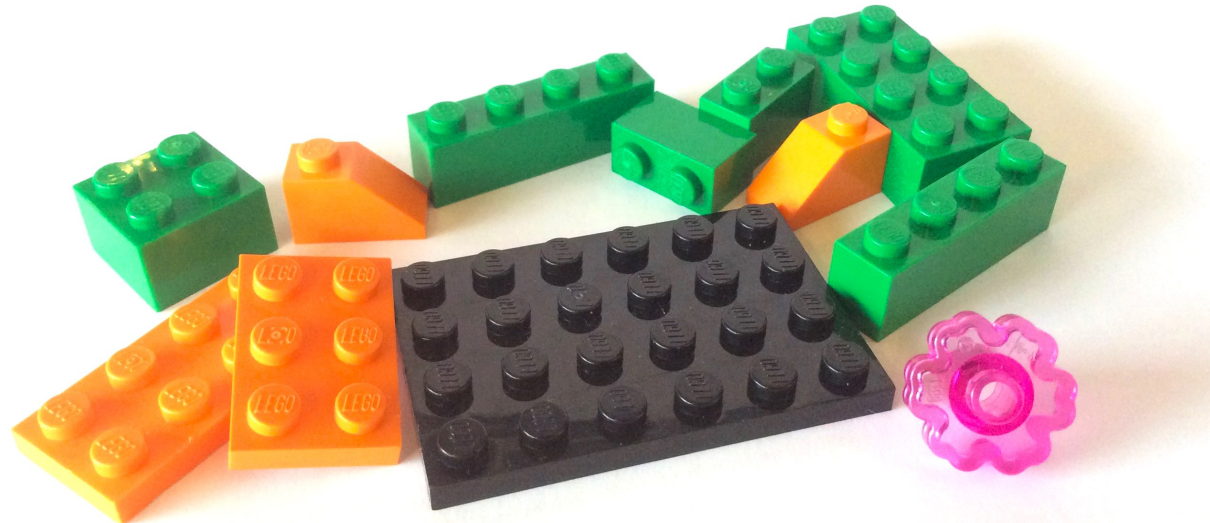
Metaphor skills

Story telling skills

Ready? - Empty your bags...

Warm up exercise 1 - Technical

Using ONLY the black base plate + green and orange bricks.



Build a tower, with a flower on top

Use ONLY the black base plate + green and orange bricks.

Open your bags and GO!

02:00

Select 5 bricks and connect them in any random way

Recycle your tower bricks

00:30

seconds

Explain this!

Practicing creative thinking and using metaphors is helpful.

We can give bricks any meaning we want.

You don't need sophisticated Lego technical skills, because you can make a brick mean anything you like.

Example from the “conscious incompetent”



Example from the “conscious incompetent”



Example from the “conscious incompetent”



Explain this! Now you are in!

Remember : a polar bear can be represented simply
by a white brick!

1 Minute building + 1 Minute explaining



minutes

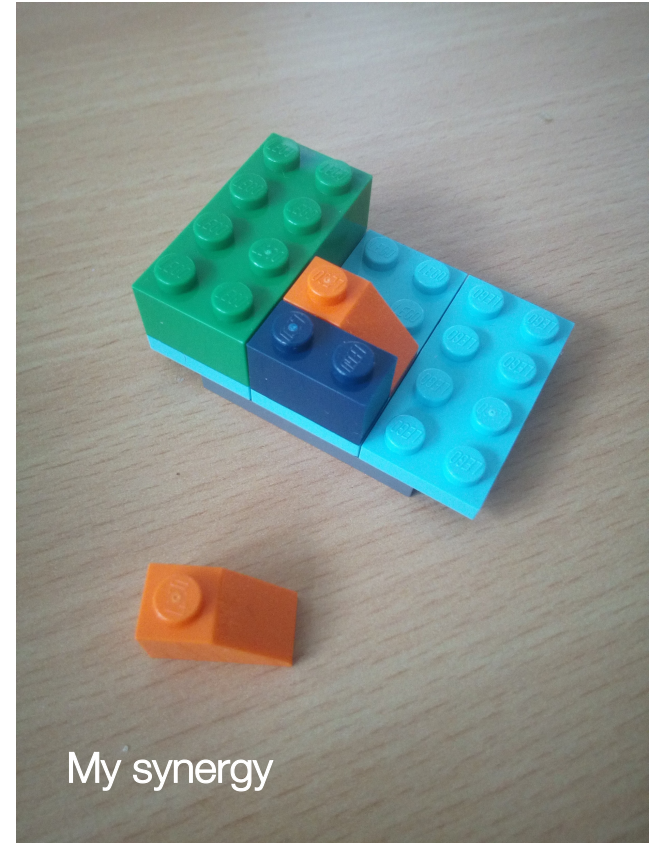
<p>PROCESS</p> <p>Please imagine the 5 brick model you have built is a representation of...</p> <p>Explain this! Leadership</p>	<p>PROCESS</p> <p>Please imagine the 5 brick model you have built is a representation of...</p> <p>Peace of mind Explain this!</p>
<p>PROCESS</p> <p>Please imagine the 5 brick model you have built is a representation of...</p> <p>Space travel Explain this!</p>	<p>PROCESS</p> <p>Please imagine the 5 brick model you have built is a representation of...</p> <p>Explain this! Synergy</p>
<p>PROCESS</p> <p>Please imagine the 5 brick model you have built is a representation of...</p> <p>A chicken Explain this!</p>	<p>PROCESS</p> <p>Please imagine the 5 brick model you have built is a representation of...</p> <p>What dogs think Explain this!</p>
<p>PROCESS</p> <p>Please imagine the 5 brick model you have built is a representation of...</p> <p>A symbol of success Explain this!</p>	<p>PROCESS</p> <p>Please imagine the 5 brick model you have built is a representation of...</p> <p>Genetic engineering Explain this!</p>

Example from the “conscious incompetent”



13/11/2018

ATF 2018 – Challenges Session



17

Back to our challenges:

Now you are LEGO® Serious Play® ninjas!

- (1) Think back to the solutions to our challenges you had in mind
- (2) Build them metaphorically with all the LEGO® bricks you need
- (3) Write a brief interpretation
- (4) Share them with your team
- (5) Compare, discuss, ask for feedbacks to the challenge holders
- (6) Put final results + brief interpretation + challenge reference close to flip-chart
- (7) Join another challenge table, if you have suggestions there

