

1. What industry does Lockheed Martin operate in? Military (it is an American defense and aerospace manufacturer)

2. Does ship building and maintaining require hard work? If so, why?

→ it is a physically demanding job as it requires workers to do a lot of sandblasting, riveting and grinding; these are strenuous activities, that can exhaust people and hurt their bodies.

3. Please search what 30 pounds are once converted in kg.

→ 13.6 kg

4. What has Miller's team done?

→ They have created the FORTIS, an exoskeleton that supports up-to-36-pound tools and enables the workers not to feel the load weight as it is transferred from their hands and arms to the ground.

5. Who has bought plan and samples of the FORTIS?

→ The US navy

6. Please describe the FORTIS.

→ It has a simple design, is made of anodised aluminium and carbon, thus weighs only 30 pounds, and has joints that mirror human joints.

7. How did the design team work?

→ They first observed how people walk, their biomechanics. They focused on the feet as feet (and especially the sole of the feet) often bear the first signs of tiredness/fatigue/exhaustion. By transferring the load weight to the ground, feet rest on the ground as they normally do. This is achieved by the stirrup workers attach to their ankles.

8. Does the FORTIS enhance workers' capabilities? If so, how?

→ It definitely has: productivity has increased from 2 to 27 times, and operators can hold up-to-16-pound grinders for a much longer time without having to rest their arms.

9. In your opinion, can we talk about augmentation?

→ yes: not only does the FORTIS help to prevent MSDs and accidents by supporting the load weight, but it also enables people to work longer, do more hence perform better. Such long gestures would not be possible without the FORTIS - men couldn't do it without the exoskeleton, their capabilities are augmented.