

**SHOTLIST OF FOOTAGE: ADDITIVE MANUFACTURING CENTER DÜSSELDORF/GERMANY**

<b>PRODUCTION TITLE</b>	<b>ADDITIVE MANUFACTURING CENTER DÜSSELDORF/GERMANY</b> <b>voestalpine High Performance Metals Deutschland GmbH</b>
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<b>PRODUCTION DATE</b>	<b>August 2018</b>
<b>AVAILABLE FORMATS</b>	<ul style="list-style-type: none"> <li>» TV Europa (50i): mov, 1920x1080, Full HD</li> <li>» TV USA (59i): mov, 1920x1080, Full HD</li> <li>» Web (H.264): mp4, 1920x1080, Full HD</li> </ul>
<b>KEYWORDS</b>	<ul style="list-style-type: none"> <li>» Additive Manufacturing (AM)</li> <li>» 3D printing with metals</li> </ul>

SCENE	TIME FROM	TIME TO	CAMERA PERSPECTIVE	SCENE DESCRIPTION
1	0:10	0:28	Close up/Detail	Screen in the AM production facility – scrolling through the components (the respective layers)
2	0:28	1:08	Close up/Detail	Preparation of the AM machine by the employee / setting up the construction platform
3	1:08	1:37	Medium close up/Close up	Preparations on the AM machine for printing / powder application for the first layer
4	1:37	2:24	Medium close up/Close up	3D printing process, melting of the layers in AM machine

SCENE	TIME FROM	TIME TO	CAMERA PERSPECTIVE	SCENE DESCRIPTION
5	2:24	2:34	Close up/Detail	Screen of the AM machine during the construction process / ramp-up of the platform after completion of the construction process
6	2:34	3:01	Medium close up/Close up	Employee operates 3D printer, employee wears safety helmet
7	3:01	3:15	Detail	Operation of the machine, screen, view into the 3D printer by employees
8	3:15	3:54	Medium close up/Close up	Finished printed workpiece is lifted from the powder bed
9	3:56	5:20	Medium close up/Close up/Detail	Employee opens the printer and vacuums off (unmelted) metal powder, which can then be reused.
10	5:20	6:23	Medium close up/Close up	Workpiece is measured optically using a coordinate measuring machine
11	6:23	6:51	Medium close up	Comparison of target and actual geometries / representation of deviations
12	6:51	7:15	Medium close up	Preparation of material samples / measurement of surfaces
13	7:15	7:30	Medium close up	Presentation of results
14	7:30	10:42	Medium long shot/Close up/Detail	Employee in front of screen measures the samples and assesses the result
15	10:42	12:36	Medium close up/Close up/Detail	2. Employee at the design engineering workstation (design and simulation), screen shots
16	12:36	13:36	Medium close up/Close up	Component comes out of the furnace after heat treatment

SCENE	TIME FROM	TIME TO	CAMERA PERSPECTIVE	SCENE DESCRIPTION
17	13:36	15:15	Medium long shot	Sawing off of the component from the building platform (partly in time-lapse) – vertical cut