



Industries in Upstream Metal Manufacturing (18)

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| 331110 Iron and Steel Mills and Ferroalloy Manufacturing | 331491 Nonferrous Metal (except Copper and Aluminum) Rolling, Drawing, and Extruding |
| 331210 Iron and Steel Pipe and Tube Manufacturing from Purchased Steel | 331492 Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum) |
| 331221 Rolled Steel Shape Manufacturing | 332111 Iron and Steel Forging |
| 331222 Steel Wire Drawing | 332112 Nonferrous Forging |
| 331313 Alumina Refining and Primary Aluminum Production | 332117 Powder Metallurgy Part Manufacturing |
| 331314 Secondary Smelting and Alloying of Aluminum | 332119 Metal Crown, Closure, and Other Metal Stamping (except Automotive) |
| 331315 Aluminum Sheet, Plate, and Foil Manufacturing | 332613 Spring Manufacturing |
| 331318 Other Aluminum Rolling, Drawing, and Extruding | 332618 Other Fabricated Wire Product Manufacturing |
| 331410 Nonferrous Metal (except Aluminum) Smelting and Refining | |
| 331420 Copper Rolling, Drawing, Extruding, and Alloying | |

Notes:
 (1) Cluster definitions are based on the U.S. Cluster Mapping Benchmark Definitions developed by Professors Mercedes Delgado, Michael E. Porter, and Scott Stern (2013).
 (2) US 2012 North American Industry Classification System (NAICS) are used for industry classifications and codes.
 (3) Industries should not be misinterpreted as sub-clusters. For a listing of all sub-clusters, please visit the Institute's Canadian Cluster Data portal.
 (4) Analysis derived from approach used by Ketels and Protsiv to broaden cluster categories by adding individual narrow industries in their report: "European Cluster Panorama 2014".

Legend

- Central Cluster
- Strongly Related Industries
- Loosely Related Industries

NAICS Industry Code
 NAICS Industry Name