

ISRU timeline

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The timeline for In Situ Resources Utilization (ISRU) depends on the type of colonization and missions.

The favored type of mission at this time, by SpaceX (Mars One), NASA(ISP ver.5) and the Mars Society(Mars Direct) all rely on ISRU to produce part of the products needed for their operation and success.

The resources and productions planned are listed in the following table by order of development:

Resources and products from ISRU

Source	Ressource	Product		
Regolith	Water	Water, CH ₄ , O ₂ and H ₂ , food*.		
Atmosphere	CO ₂	Propellant, Carbon, Oxygen, food.		
Atmosphere	Nitrogen	Settlement air, cold thruster gas, food.		
Regolith	Regolith	Radiation shielding, roads.		
Regolith	To be determined**	Cement, Marscrete, Compressed Regolith Blocks.		
Regolith	Iron Oxyde Fe ₂ O ₃	Iron, steel		
Regolith	Calcium Carbonate	Cement		
Regolith	SiO ₂ , Sodium Carbonate	Glass		
Basalt	Rock	Construction stone, roads		
Clay	Very fine separated ores	Ceramics		
Salt deposits	Sodium chloride	Salt		

*Although food will be produced rapidly for experimental and morale purposes, large scale production will probably wait for the colony population to grow substantially before it becomes economical.

**The best construction material made from regolith will be the subject of some of the first materials research done on Mars and an important scientific objective of initial missions.

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