In solar system, Titan has the most nitrogen-rich atmosphere known and its atmosphere is able to create breathable air using existing nitrogen as a buffer so colonists’d only need to add oxygen to create it. Existence of tholins in 2005 on Titan has implications for the origin of life and possibly other planets like Earth.Titan is a unique satellite which has carbon-rich chemistry on it's water-ice dominated and abundant amount of liquid hydrocarbon surface with an interior possible water ocean making it a nice target for astrobiology and origin of life.

Firstly, Titan has the fuel a colony could ever need and with his oxygen-free atmosphere making it much easier to obtain energy. Many solar system bodies don't have liquid water and to sustain life, we need it. Thus there are planets and satellites which has abundant water but their stuff trapped beneath an icy shell and that makes it hard to access so Titan is a cold satellite like Mars and that makes sense if we trying to sustain life. According to a Cassini team member, Titan's liquid water layer is important because we should understand how methane is stored in interior Titan and how it may outgas to surface. Evidence of that indicates there may be liquid water. These underground matters may be delivered to the surface by cyrovolcanic activities though.

Secondly,Titan also has everything thag colonists’d need to build a perma shelter. Instead of relying on wood/brick/metal as we do on Earth, Titan’d be an ideal place to use space-age polymers for building them. Its thick atmosphere and Saturn's magnetic field keep the surface free of harmful radiation. Rather than having to carve out underground shelters colonists’d be able to build habitats as well. It has comfortable air pressure for habitability, on it's surfave habitats’d maintain with this low pressure.

Lastly,in June 2013, polycyclic aromatic hydrocarbons were detected on upper atmosphere of Titan which is abundant in universe and considered possible starting materials of earliest form of life after being formed billion years after Big Bang.According to PAH world hyphotesis, PAH's mediating to the synthesis of RNA and RNA as we know, has a major role on dynamics of life.

In 2025, Dragonfly mission would be in order to measure surface composition and atmospheric conditions and insvestigate Titan's surface and show us how far prebiotic chemistry gone far and provide us information of hypothetical types of chemistry. Structure of Dragonfly'd be desired for best scientific value.

In conclusion,with it's revolutionary new paradigm in planetary exploration by demonstrating a detailed implementation proposal for unparalleled regional mobility, Dragonfly would be succesful. Titan's low gravity, low winds and thick atmosphere allows for an efficient rotor propulsion for Dragonfly. Cassini mission showed us Titan as a world but never got a good view of Titan because of it's thick atmosphere and once Huygens probe touched to ground it ran out of battery in mere hours. The science objectives of Dragonfly mission will show us prebiotic organic chemistry and habitability on Titan.

Student name surname:Fırat BAKICI

Student’s Birth Date:08.09.2002

School name&address& phone number:İSTANBUL BAHÇELİEVLER DEDE KORKUT ANADOLU LİSESİ

Cumhuriyet Mah. Mevlana Cad.No 3 , 34186 Bahçelievler/İstanbul

02124363451

Consultant teacher:Ilknur KAVAK ERGIN

Phone number:05068128148

e-mail: kavakilknur@hotmail.com