

NAVIGATION CHALLENGE			
Descrizione	Nome Topic	Type	Frequenza Media
Topic laserscan del Lidar	/scan	sensor_msgs/LaserScan	9.5 Hz
Topic pointcloud del Lidar	/points_raw	sensor_msgs/PointCloud2	8 Hz
Topic per comandare robot ad alto livello	/cmd_vel	geometry_msgs/Twist	10000 Hz (MAX)
Topic per dati IMU	/imu_raw	sensor_msgs/Imu	470 Hz
Topic per dati Odometry	/odometry/imu	nav_msgs/Odometry	470 Hz
Topic per dynamic TF	/tf	Tf2_msgs/TFMessage	955 Hz
Topic per static TF	/tf_static	Tf2_msgs/TFMessage	
Topic della camera RealSense	/camera/color/image_raw	sensor_msgs/Image	15 fps (resolution 640x480)
Topics delle camere laterali di sinistra del robot	/camera/left/left/image_raw	sensor_msgs/Image	13 fps (resolution 928x400)
	/camera/left/right/image_raw	sensor_msgs/Image	
Topics delle camere laterali di destra del robot	/camera/right/left/image_raw	sensor_msgs/Image	13 fps (resolution 928x400)
	/camera/right/right/image_raw	sensor_msgs/Image	
Topics delle camere posteriori sotto il body del robot	/camera_rearDown/left/image_raw	sensor_msgs/Image	30 fps (resolution 928x400)
	/camera_rearDown/right/image_raw	sensor_msgs/Image	
Topics delle camere anteriori sotto la testa del robot	/camera/chin_left/image_raw	sensor_msgs/Image	13 fps (resolution 928x400)
	/camera/chin_right/image_raw	sensor_msgs/Image	

Topics delle camere frontali del robot	<i>/camera/front_left/image_raw</i>	<i>sensor_msgs/Image</i>	<i>13 fps (resolution 928x400)</i>
	<i>/camera/front_right/image_raw</i>	<i>sensor_msgs/Image</i>	

LOCOMOTION CHALLENGE			
Descrizione	Nome Topic	Type	Frequenza Media
Topic per Low level telemetry	<i>/low_state</i>	<i>unitree_legged_msgs/LowState</i> <i>*</i>	<i>500 Hz (MAX)</i>
Topic per Low level command	<i>/low_cmd</i>	<i>unitree_legged_msgs/LowCmd</i> <i>*</i>	<i>10000 Hz (MAX)</i>
Topic laserscan del Lidar	<i>/scan</i>	<i>sensor_msgs/LaserScan</i>	<i>9.5 Hz</i>
Topic pointcloud del Lidar	<i>/points_raw</i>	<i>sensor_msgs/PointCloud2</i>	<i>8 Hz</i>
Topic per static TF	<i>/tf_static</i>	<i>Tf2_msgs/TFMessage</i>	
Topic della camera RealSense	<i>/camera/color/image_raw</i>	<i>sensor_msgs/Image</i>	<i>15 fps (resolution 640x480)</i>
Topics delle camere laterali di sinistra del robot	<i>/camera/left/left/image_raw</i>	<i>sensor_msgs/Image</i>	<i>13 fps (resolution 928x400)</i>
	<i>/camera/left/right/image_raw</i>	<i>sensor_msgs/Image</i>	
Topics delle camere laterali di destra del robot	<i>/camera/right/left/image_raw</i>	<i>sensor_msgs/Image</i>	<i>13 fps (resolution 928x400)</i>
	<i>/camera/right/right/image_raw</i>	<i>sensor_msgs/Image</i>	
Topics delle camere posteriori sotto il	<i>/camera_rearDown/left/image_raw</i>	<i>sensor_msgs/Image</i> <i>sensor_msgs/Image</i>	<i>30 fps (resolution 928x400)</i>

body del robot	<i>/camera_rearDown/right/image_raw</i>		
Topics delle camere anteriori sotto la testa del robot	<i>/camera/chin_left/image_raw</i> <i>/camera/chin_right/image_raw</i>	<i>sensor_msgs/Image</i> <i>sensor_msgs/Image</i>	<i>13 fps</i> <i>(resolution 928x400)</i>
Topics delle camere frontali del robot	<i>/camera/front_left/image_raw</i> <i>/camera/front_right/image_raw</i>	<i>sensor_msgs/Image</i> <i>sensor_msgs/Image</i>	<i>13 fps</i> <i>(resolution 928x400)</i>

* https://github.com/unitreerobotics/unitree_ros_to_real/tree/master/unitree_legged_msgs/msg
