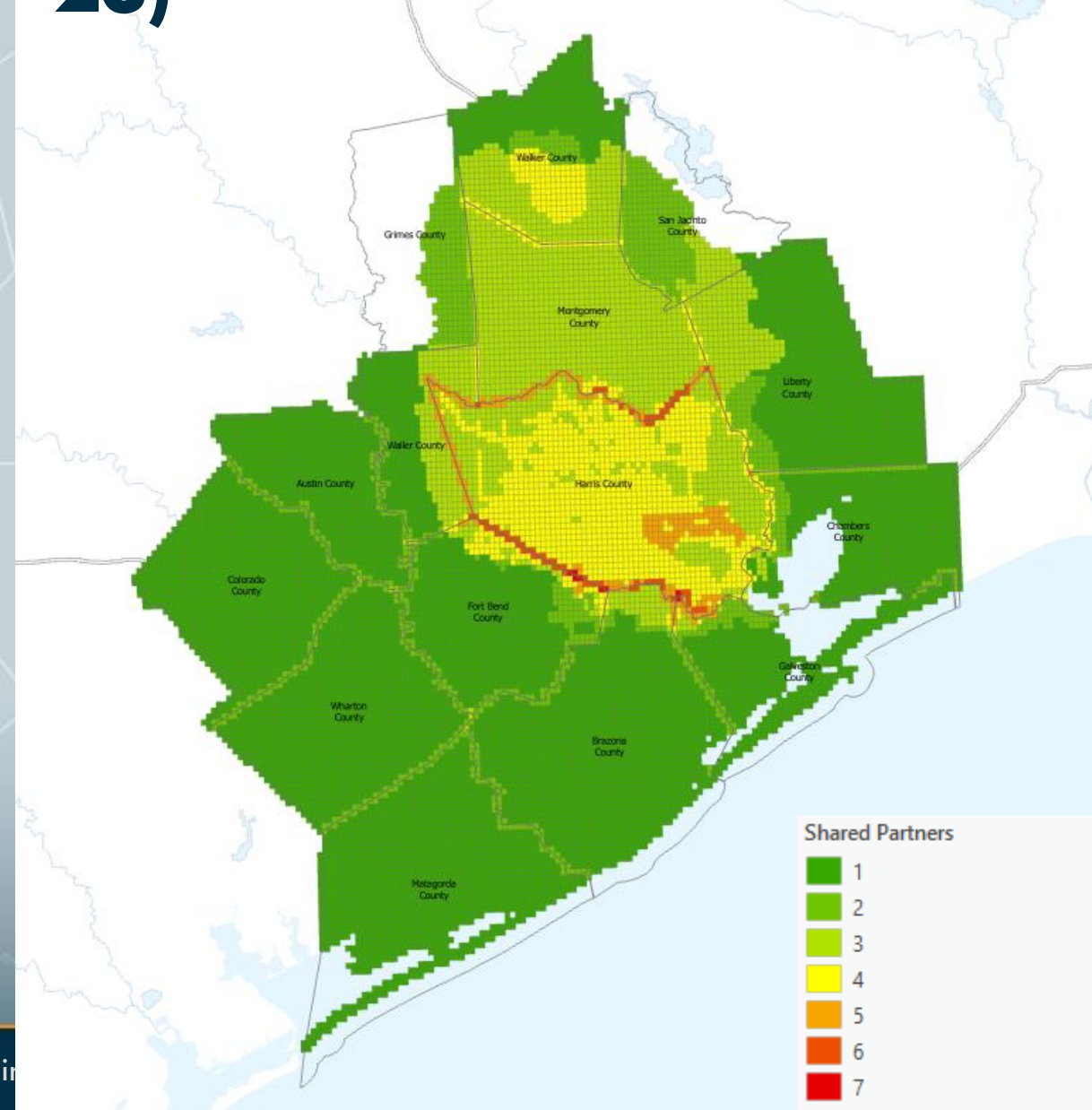


2024 H-GAC LiDAR and Aerial Imagery Cost-Share Program Updates

Thushara Ranatunga
GIS Program Lead
Houston-Galveston Area Council

2024 LiDAR Interested Partners Tile Share (as of July '23)

- County
 - Harris, Montgomery, Fort Bend, Brazoria, Galveston, Liberty, Chambers, Waller, Walker, Austin, Colorado, Wharton, Matagorda
- Regional/Other
 - Harris County Flood Control District
 - Harris Central Appraisal District
 - San Jacinto River Authority
 - Port Houston
- City
 - Houston, Pearland, Huntsville, Missouri City, Friendswood, Webster
- Academic
 - Rice University
 - Houston Advanced Research Center



2024 Lidar Scope

- Resolution / Point Density (USGS Quality Levels):

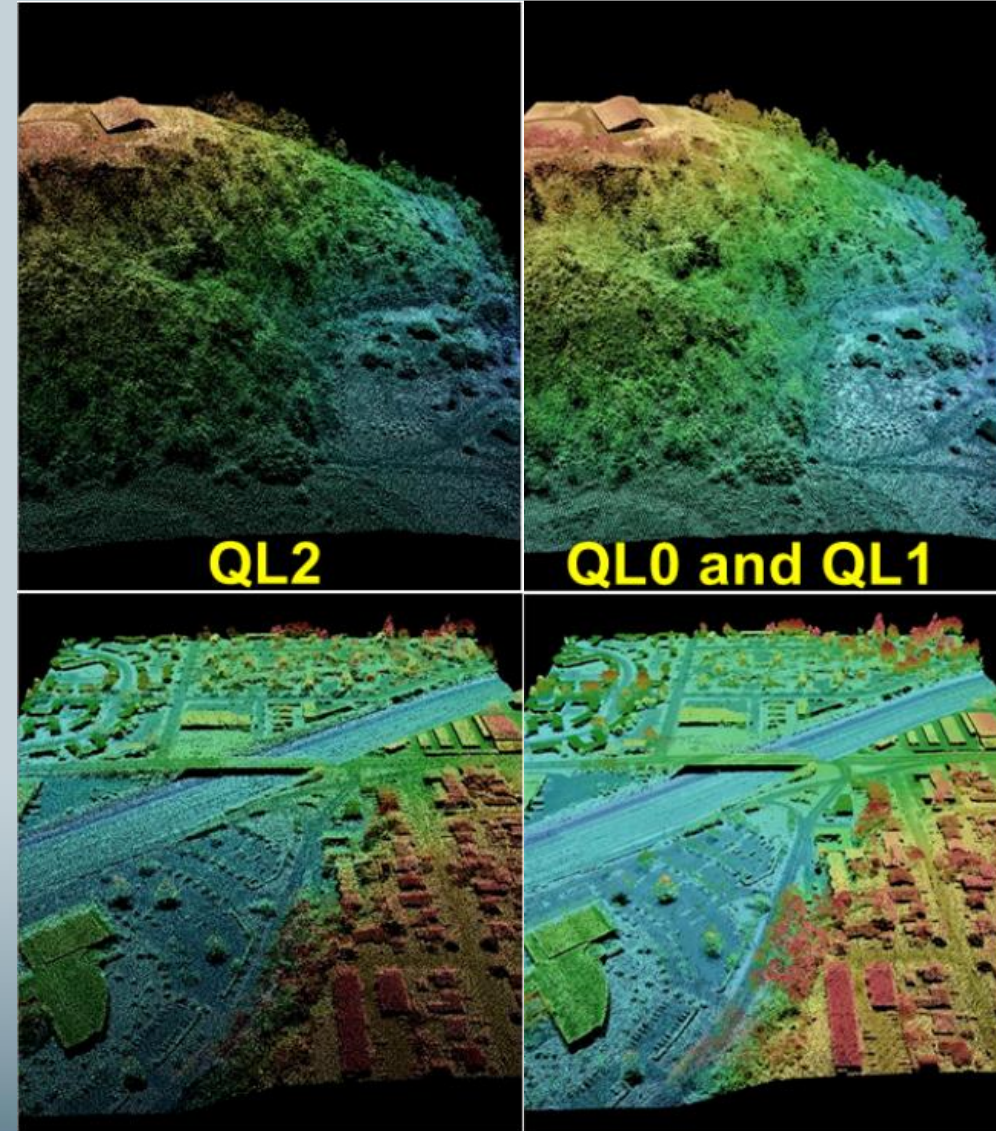
Quality Level	Point Density	DEM Resolution	Vertical Accuracy
QL 2	$\geq 2 \text{ pts/m}^2$	1 m / 2ft	10 cm RMSE _z
QL 2+	$\geq 4 \text{ pts/m}^2$	0.5 m / 1 ft	10 cm RMSE _z
QL 1	$\geq 8 \text{ pts/m}^2$	0.5 m / 1 ft	10 cm RMSE _z
QL 0	$\geq 8 \text{ pts/m}^2$	0.5 m / 1 ft	5 cm RMSE _z

- Products:

- Classified point cloud: ground, vegetation (high, medium, low), structures, water, other/noise
- Hydro delineation breaklines
- 2ft and 5ft Contours
- Digital elevation models (DEMs)
 - Hydro-flattened – water bodies $>2 \text{ ac}$, $>100 \text{ ft}$
 - Hydro-enforced? – for drainage modeling
- Building footprint extraction?

- Est'd. Cost:

- 4 pts/m² : \$200/ mi²
- 8 pts/m² : \$240/ mi²

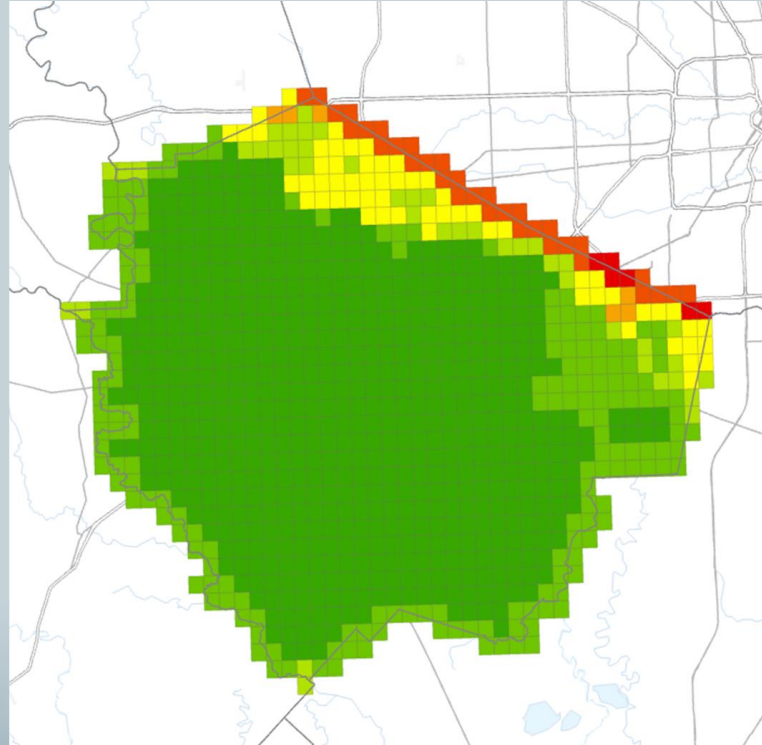
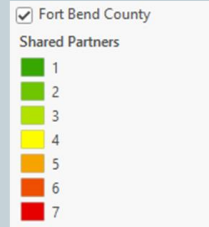


Tentative Timeline



2024 Lidar Next Steps..

- Letter of Intent
 - By Aug 4th



Total cost
 4 pts: \$152K
 8 pts: \$183K

Tile_Count	Shared_Partners	Cost_4pts	Cost_8pts
635	1	\$127,000.00	\$152,400.00
182	2	\$18,200.00	\$21,840.00
43	3	\$2,866.67	\$3,440.00
59	4	\$2,950.00	\$3,540.00
6	5	\$240.00	\$288.00
33	6	\$1,100.00	\$1,320.00
6	7	\$171.43	\$205.71

[Organization Letterhead]

Date

2024 LiDAR Letter of Intent

The Houston-Galveston Area Council (H-GAC) and its Geographic Data Workgroup (GDW) are coordinating the acquisition, QA/QC, and production of LiDAR (Light Detection and Ranging) data. Under these agreements, costs are to be shared by H-GAC and its cost-share participant GDW or H-GAC members.

I hereby certify that Name of Organization is either a current member of the Houston-Galveston Area Council (H-GAC), the Geographic Data Workgroup (GDW) or is in association with one of the 13 counties within the H-GAC region and seeks to purchase 2024 LiDAR data as previously requested at a cost of ca. \$210/mi² (4ppsm) or \$240/mi² (8ppsm), respectively. I understand that the quoted cost will be divided by the number of partners sharing overlapping areas (see breakdown in attachment).

I further certify that Name of Organization has budgeted funds for this project and will reimburse the Houston-Galveston Area Council for an amount not to exceed Insert \$ Amount Here (see attachment).

Payment for 2024 LiDAR (select one):

Invoice full amount upon contract award.
 Delay full invoice until funds become available in Month/Year.
 Invoice incrementally when H-GAC is invoiced by the contractor.
 Other: _____

Participating Entity Information:

 Organization Name _____
Name of Representative

 Organization Mailing Address _____
Signature of Representative

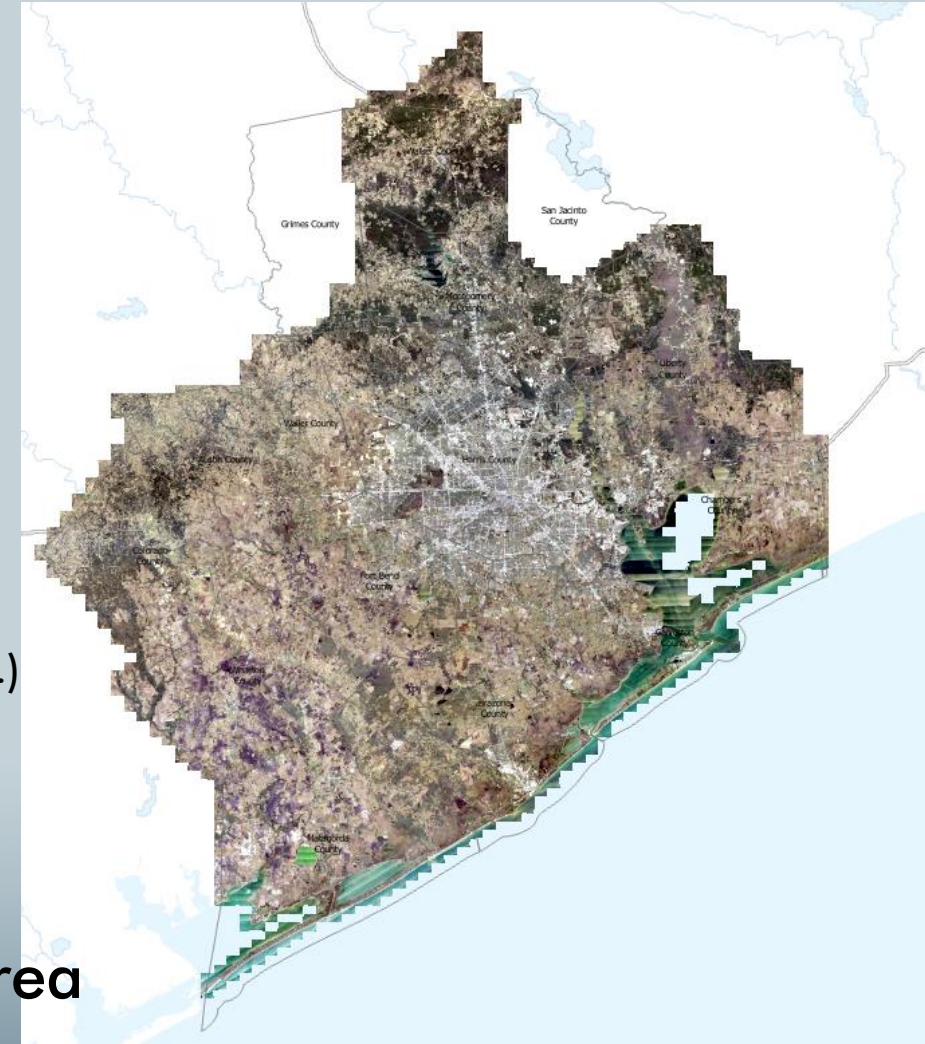
 Organization Mailing Address _____
Phone Number

 City, State, ZIP _____
E-Mail

- USGS 3DEP BAA Funding Application

Aerial Imagery 2024

- Region wide Biannual Imagery collection
- Intended uses of the imagery include:
 - Cartographic representation
 - Land use / land cover classification
 - Change detection analyses
 - Planimetrics (feature extraction) for
 - Structures (buildings, porches, fences, etc.)
 - Transportation features (roadways, sidewalks, paths, parking lots, signage, railroads, etc.)
 - Water bodies and associated features (bridges, culverts, dams, etc.)
 - Utilities (power poles, light poles, etc.)
 - Vegetated areas (forested, grasslands, crops, etc.)
 - Other (pools, pads, etc.)
- Last Imagery Collection 2022
 - 6 in – RGB and Color Infrared for 13 County area

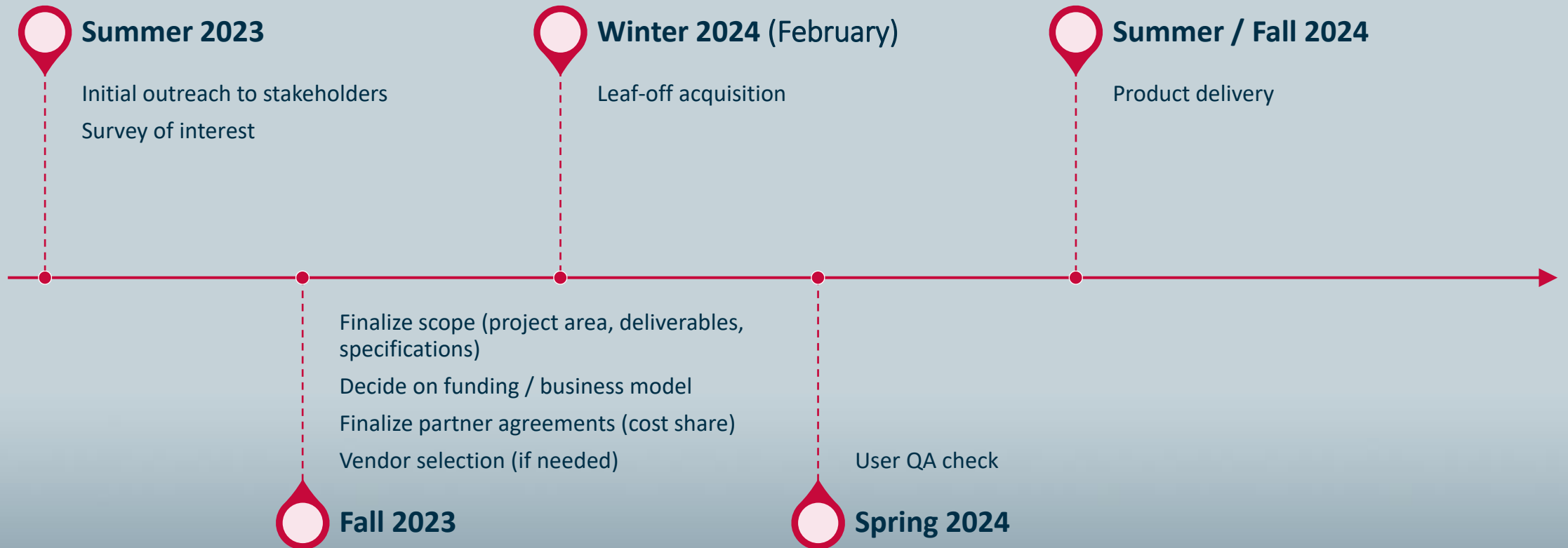


Aerial Imagery 2024

- Planning the renewal cycle
 - Initial gauging stakeholders' interest
 - 12" orthos (\$25 / sqmi)
 - 6" orthos (\$68 / sqmi)
 - 3" orthos (\$186 / sqmi)
 - Not interested
 - Need more information
 - 38 participants in the 2022 ortho-imagery program + additional interested participants for 2024 LiDAR program

Brazoria County Engineering
City of Bellaire
City of Clear Lake Shores
City of Dickinson
City of Eagle Lake
City of Friendswood
City of Houston
City of Jersey Village
City of La Porte
City of Lake Jackson
City of Manvel
City of Missouri City
City of Pearland
City of Sugar Land
City of Tomball
City of Webster
CivilTech Engineering
Costello, Inc.
DEC
East Montgomery County Improvement District
Greater Harris County 9-1-1
Gulf Coast Regional 9-1-1 Emergency Communications District
Harris County Engineer
Harris County Flood Control District
Harris County Toll Road Authority
HDR
Houston Advanced Research Center
Huitt-Zollars, Inc.
Lone Star EPC, LLC
METRO
North Harris County Regional Water Authority
Port of Houston Authority
R.G. Miller Engineers, Inc.
Rice University
Texas Department of Transportation
Walker County
Walker County Appraisal District
Waller County Road & Bridge Department

Tentative Timeline



Contact

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