UNITED STATES
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Patents artificial intelligence (AI) tools

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November 19, 2020

Patent Public Advisory Committee quarterly meeting

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Agenda

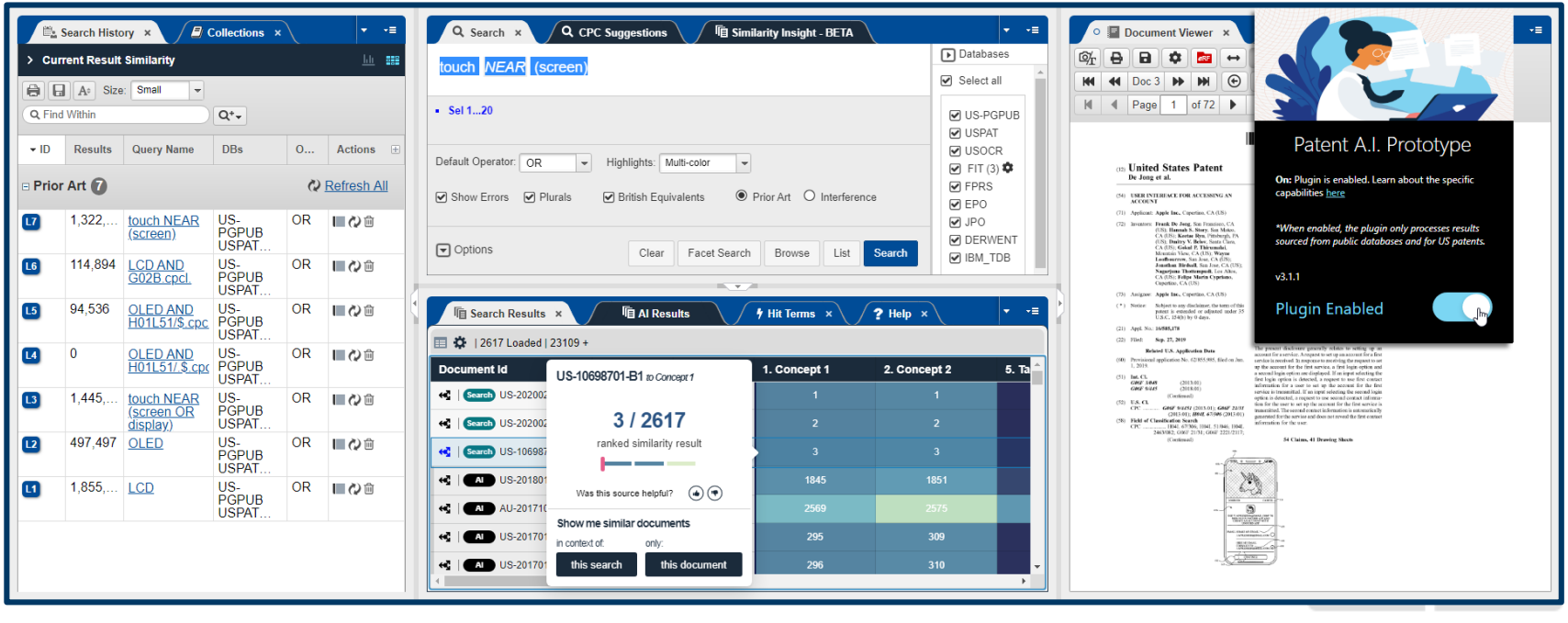
- Patents AI prototype for search
  - Milestones in fiscal year 2020
  - Path forward in fiscal year 2021
- Auto-classification
  - Milestones in fiscal year 2020
  - Path forward in fiscal year 2021

Patent Public Advisory Committee quarterly meeting

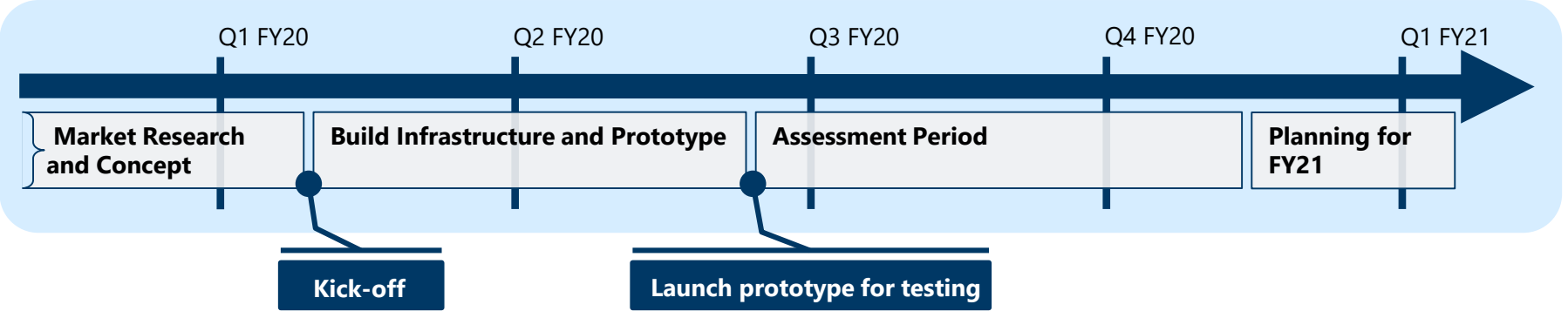
Patents AI search

Vision for AI search in patents

Leverage AI to assist the examiner in retrieving all potentially relevant prior art references for review at the earliest stage of prosecution.

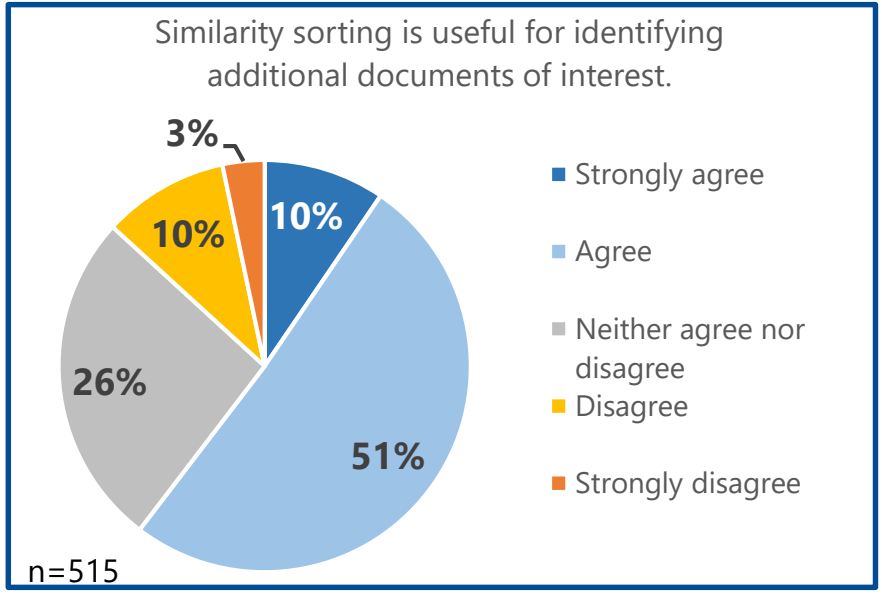


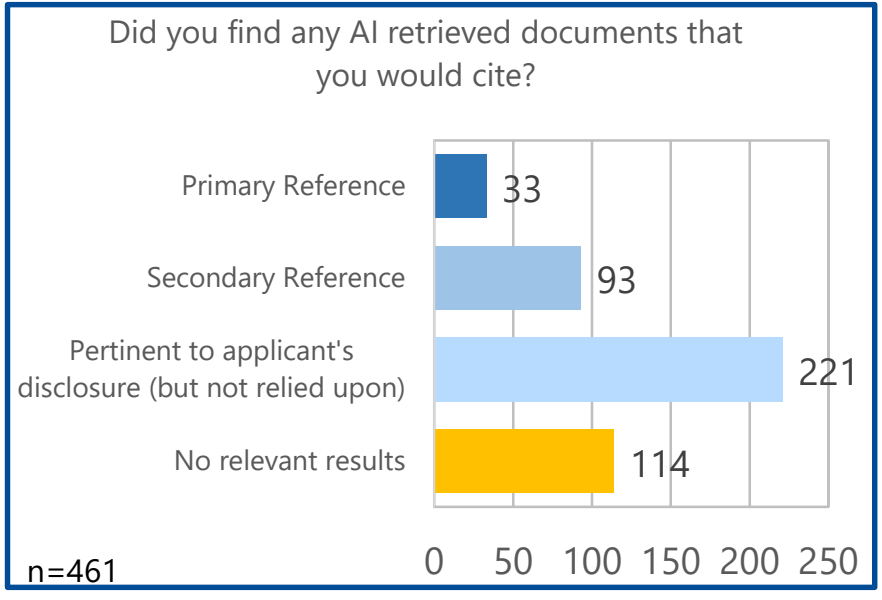
Milestones in fiscal year 2020



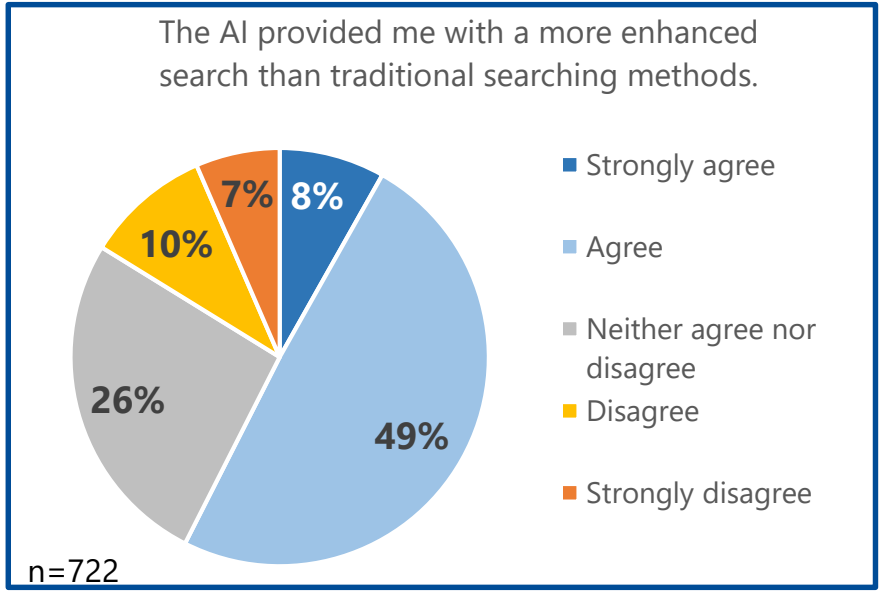
- Initial prototype ready for assessment 4 months from kick-off
- Assessment period extended from March – July 2020
  - ~700 unique survey responses from ~300 unique users
  - In-depth engagement sessions with volunteers

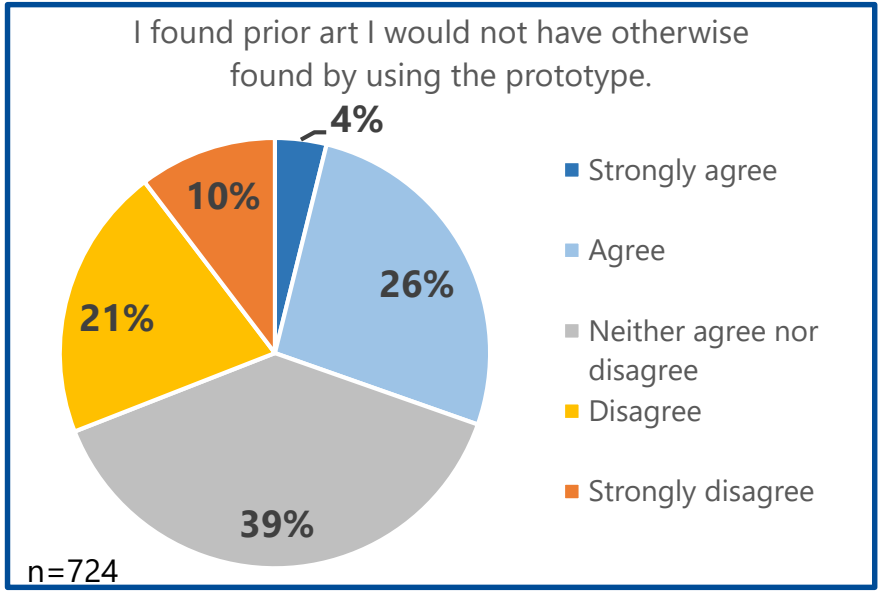
Selected assessment results



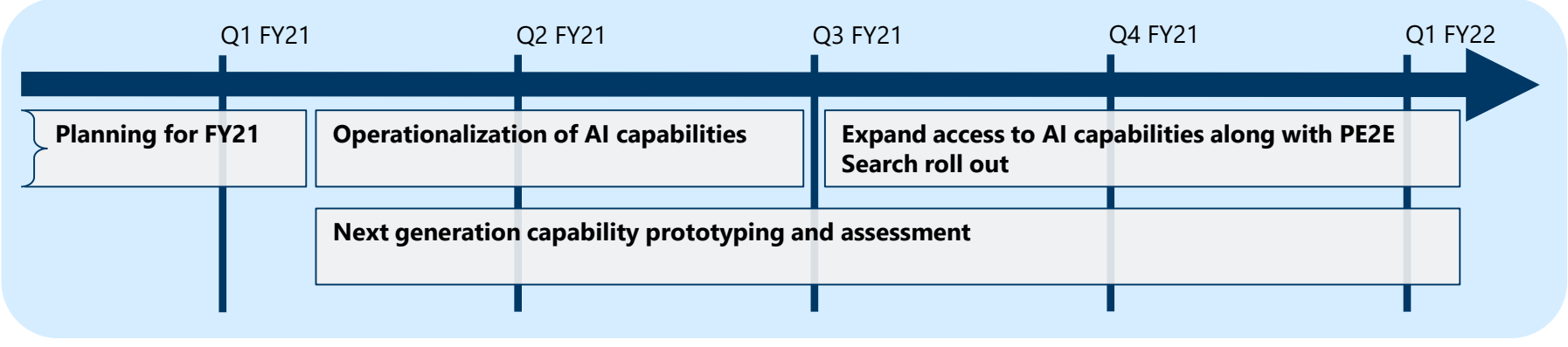


Selected assessment results





Path forward in fiscal year 2021



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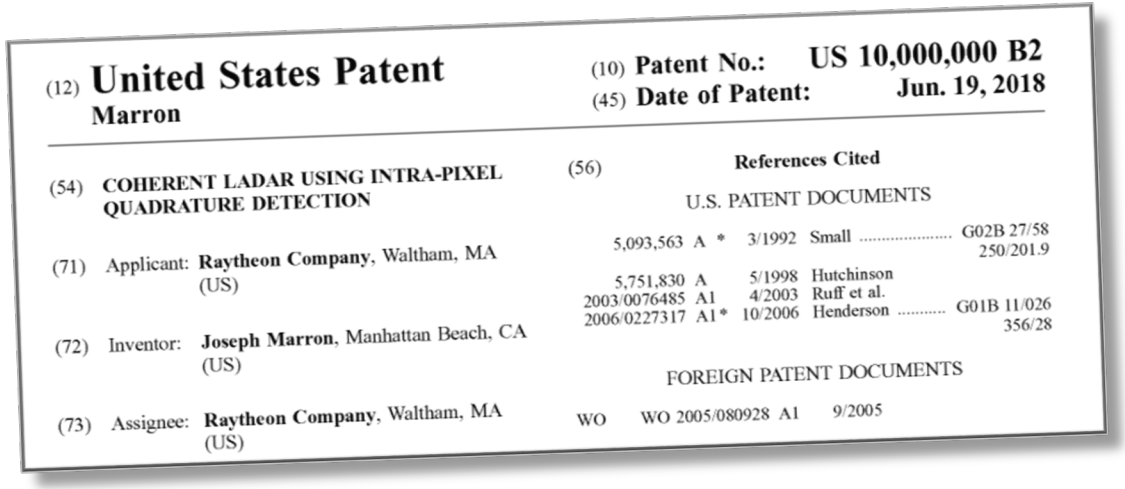
Auto-classification

Vision for CPC auto-classification

Mature auto-classification system to generate CPC data to meet internal needs and international obligations for classification.

CPC allocations	C*
G01S 7/4863	★
G01S 7/4865	★
G01S 7/4917	
G01S 13/89	★
G01S 7/4914	★
G01S 17/894	



(12) **United States Patent**
Marron

(10) **Patent No.: US 10,000,000 B2**
(45) **Date of Patent: Jun. 19, 2018**

(54) **COHERENT LADAR USING INTRA-PIXEL QUADRATURE DETECTION**

(71) Applicant: **Raytheon Company**, Waltham, MA (US)

(72) Inventor: **Joseph Marron**, Manhattan Beach, CA (US)

(73) Assignee: **Raytheon Company**, Waltham, MA (US)

(56) **References Cited**

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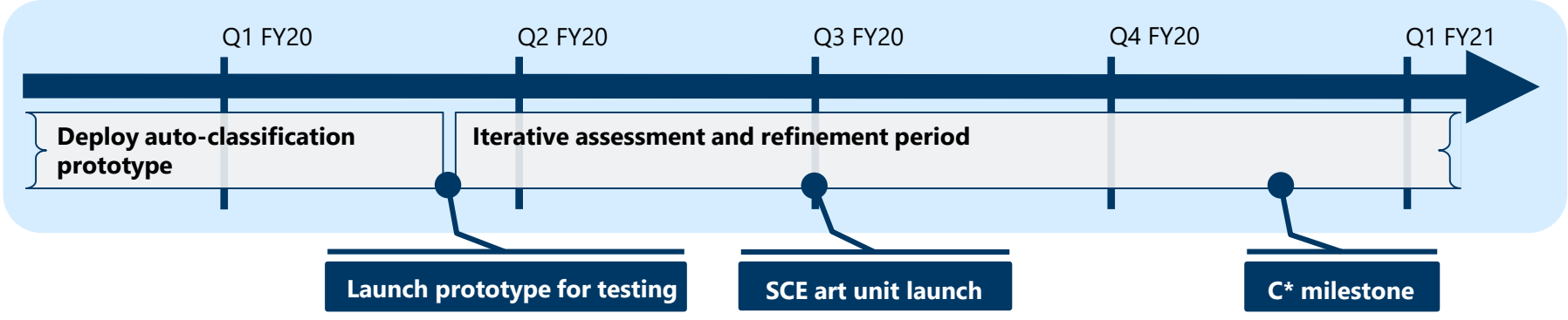
Milestones in fiscal year 2020

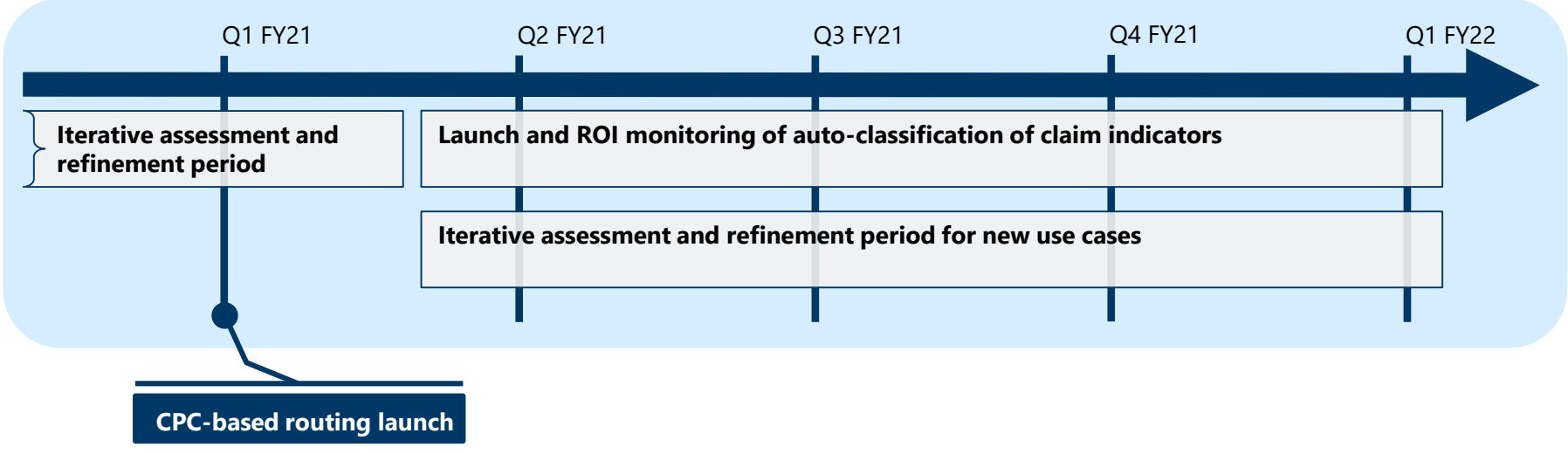


Assessment of auto-C*

	Auto-C*	Applied C*
# of symbols reviewed	1141	1228
Accuracy	64.77 %	65.96 %
Precision	76.58 %	76.95 %
Recall	75.68 %	79.08 %
Specificity	33.33 %	23.71 %
F_1 score	76.13 %	78.00 %

$$F_1\ score = 2 \cdot \frac{precision \cdot recall}{precision + recall}$$

Path forward in fiscal year 2021



Thank you!

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