Integrated & Smart Food Value Chain.
Experiences from The spanish Focus Group on digitization and big data in the agrofood and forestry sectors and rural areas

Andrés Montero Aparicio

IoT Week Bilbao 2018
4-7 JUNE 2018, BILBAO (SPAIN)
EUSKALDUNA CONFERENCE CENTRE
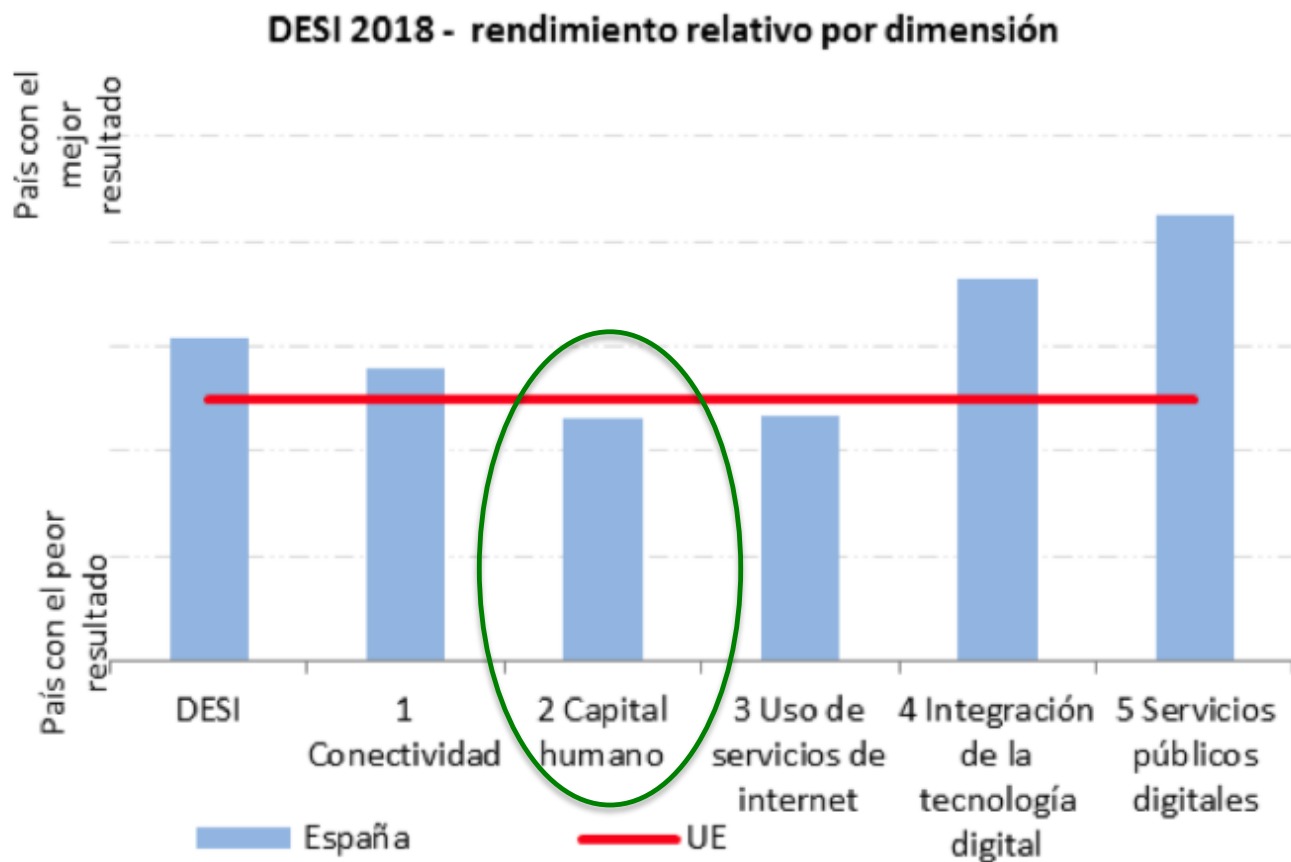
Needed a value chain approach

To reap the potentialities of digitization of agrifood sector we should allow the sector to encompass its capacities development to the best available technologies:

Need for training:

– **Lifelong**

– **Professional**

– **Higher education**

DESI 2018 - rendimiento relativo por dimensión

Índice de la Economía y la Sociedad Digitales 2018, Informe de país para España

Training level of farm responsibles

GEO/TIME	2005					2010					2013				
	Total	Basic	Practical		Full training	Total	Basic	Practical		Full training	Total	Basic	Practical		Full training
Belgium	51.540	12.260	26.940	52%	12.340	42.850	9.160	22.360	52%	11.330	37.760	7.450	22.310	59%	8.000
Bulgaria	534.610	22.860	506.290	95%	5.470	370.490	9.610	357.820	97%	3.070	254.410	3.360	236.300	93%	14.750
Czech Rep.	42.250	8.260	23.360	55%	10.630	22.860	4.480	9.910	43%	8.470	26.250	4.910	12.250	47%	9.090
Denmark	51.680	20.380	28.700	56%	2.590	42.100	18.340	21.670	51%	2.090	38.830	:	38.830	100%	:
Germany	389.880	89.210	122.940	32%	177.730	299.130	165.230	94.000	31%	39.910	285.030	151.690	91.010	32%	42.340
Estonia	27.750	2.920	18.610	67%	6.210	19.610	2.740	12.450	63%	4.420	19.190	2.660	11.590	60%	4.940
Ireland	132.670	22.460	91.950	69%	18.260	139.890	21.170	96.510	69%	22.210	139.600	35.620	70.290	50%	33.680
Greece	833.590	42.250	788.640	95%	2.700	723.060	22.790	697.910	97%	2.360	709.500	39.050	666.260	94%	4.190
Spain	1.079.420	99.300	966.590	90%	13.530	989.800	136.610	838.040	85%	15.150	965.000	155.710	793.600	82%	15.690
France	567.140	62.190	258.930	46%	246.020	516.100	148.170	256.390	50%	111.550	472.210	152.260	181.560	38%	138.380
Croatia	:	:	:		:	233.280	6.540	221.700	95%	5.030	157.450	:	:		:
Italy	1.728.530	140.900	1.534.520	89%	53.110	1.620.880	1.472.370	80.510	5%	68.010	1.010.330	917.260	31.270	3%	61.790
Cyprus	45.170	2.630	42.270	94%	270	38.860	2.050	36.650	94%	170	35.380	2.460	32.740	93%	180
Latvia	128.670	15.680	84.850	66%	28.140	83.390	10.330	51.270	61%	21.790	81.800	10.750	47.800	58%	23.240
Lithuania	252.950	48.370	174.780	69%	29.800	199.910	35.020	139.920	70%	24.970	171.800	33.110	112.300	65%	26.390
Luxembourg	2.450	340	1.080	44%	1.030	2.200	320	870	40%	1.010	2.080	250	790	38%	1.040
Hungary	714.790	34.960	619.130	87%	60.710	576.810	65.290	492.390	85%	19.140	491.330	70.670	403.620	82%	17.040
Malta	11.070	30	11.020	100%	20	12.530	1.060	11.300	90%	170	9.360	1.130	8.160	87%	80
Netherlands	81.830	54.490	23.360	29%	3.990	72.320	46.690	20.840	29%	4.790	67.480	43.290	18.980	28%	5.210
Austria	170.640	33.580	88.610	52%	48.450	150.170	33.690	78.030	52%	38.450	140.430	31.820	70.410	50%	38.210
Poland	2.476.470	548.850	1.522.990	61%	404.640	1.506.620	320.990	814.450	54%	371.180	1.429.010	288.830	746.140	52%	394.030
Portugal	323.920	33.930	285.660	88%	4.330	305.270	31.810	268.560	88%	4.900	264.420	39.160	218.720	83%	6.540
Romania	4.256.150	269.040	3.942.630	93%	44.490	3.859.040	81.490	3.761.970	97%	15.580	3.629.660	113.750	3.498.870	96%	17.040
Slovenia	77.170	16.370	55.580	72%	5.220	74.650	19.940	48.040	64%	6.670	72.380	27.640	36.220	50%	8.520
Slovakia	68.490	7.700	58.490	85%	2.300	24.460	3.670	18.640	76%	2.150	23.570	3.550	17.840	76%	2.180
Finland	70.620	23.110	41.940	59%	5.570	63.870	22.200	35.790	56%	5.890	54.400	20.920	27.800	51%	5.680
Sweden	75.810	11.860	50.370	66%	13.580	71.090	8.600	49.130	69%	13.360	67.150	7.740	46.500	69%	12.900
United Kingdom	286.750	31.640	220.170	77%	34.940	186.800	19.430	144.330	77%	23.040	185.190	30.160	126.390	68%	28.640
Iceland	:	:	:		:	2.590	840	1.030	40%	730	:	:	:		:
Norway	53.000	4.770	27.430	52%	20.760	46.620	12.430	27.240	58%	6.950	43.270	7.810	30.750	71%	4.720
Switzerland	63.630	:	:		:	59.070	30.580	13.150	22%	15.340	:	:	:		:
Montenegro	:	:	:		:	48.870	1.850	46.220	95%	810	:	:	:		:

Source: EUROSTAT. 2016.

But we should also allow the connectivity all over the territory
By allowing the connectivity through different formula:
- -Making use of existing operators
- -New collaborative models for networks establishment
- -Making use of the best available technology

…and face the structural divide

     -Youngters and new entrants
     -Women
     -Small and medium farmers and coops and SMEs

Spanish youngsters are specially attracted by digital professions

Jóvenes atraídos por cada profesión[1] , %

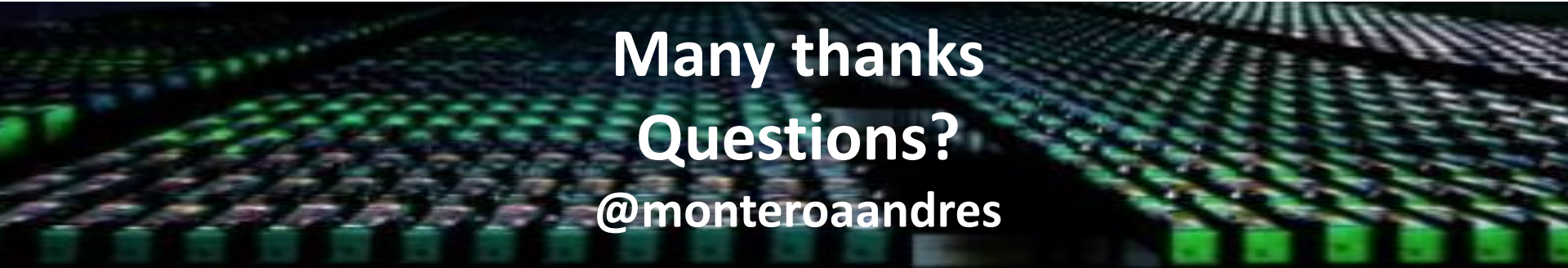| Profesión		Alemania	Francia	Reino Unido	España	Italia	Grecia	Portugal	Suecia
Grado profesional	Ingeniero	57	61	41	57	46	51	58	50
	Médico/cirujano	51	59	40	47	46	54	49	37
	Abogado	55	50	41	42	40	41	44	38
	Auditor	49	42	38	52	52	40	50	26
Master	Profesor	48	45	45	60	51	56	45	29
Licenciatura	Analista financiero	55	39	41	56		48	42	27
Título medio de 2-3 años	Desarrollador web	58	57	43	67	51	62	60	45
	Diseñador gráfico	57	54	36	63	56	52	54	44
	Técnico informático	60	53	46	58	58	64	58	45
	Trabajador social	48	46	36	54	42	50	45	33
Formación profesional cualificada	Policía	50	47	36	51	49	34	46	42
	Asistente sanitario	53	49	38	46	45	37	47	30
	Asistente educativo	44	41	38	57	50	41	43	24
	Técnico sanitario	44	43	31	54	42	37	53	25
	Secretario	44	45	38	57	57	54	61	35
	Electricista	44	40	31	41	43	41	41	35
	Mecánico	48	35	28	49	42	46	41	31
	Obrero (construcción)	40	37	25	41	42	26	32	35
Servicios	Representante comercial	48	39	40	46	45	48	44	40
	Atención al cliente	49	43	51	58	54	56	55	38
	Trab. sector alimentario	51	43	38	54	59	46	47	42
	Empleado de hotel	40	43	37	60	58	51	60	42

1 Porcentaje que encuentra el campo atractivo o ha solicitado un empleo en él / porcentaje familiar con la profesión

Capture the value of the interactions along the agrofood value chain

Elaboración propia sobre el modelo Netchain. Lazzarini et al 2001
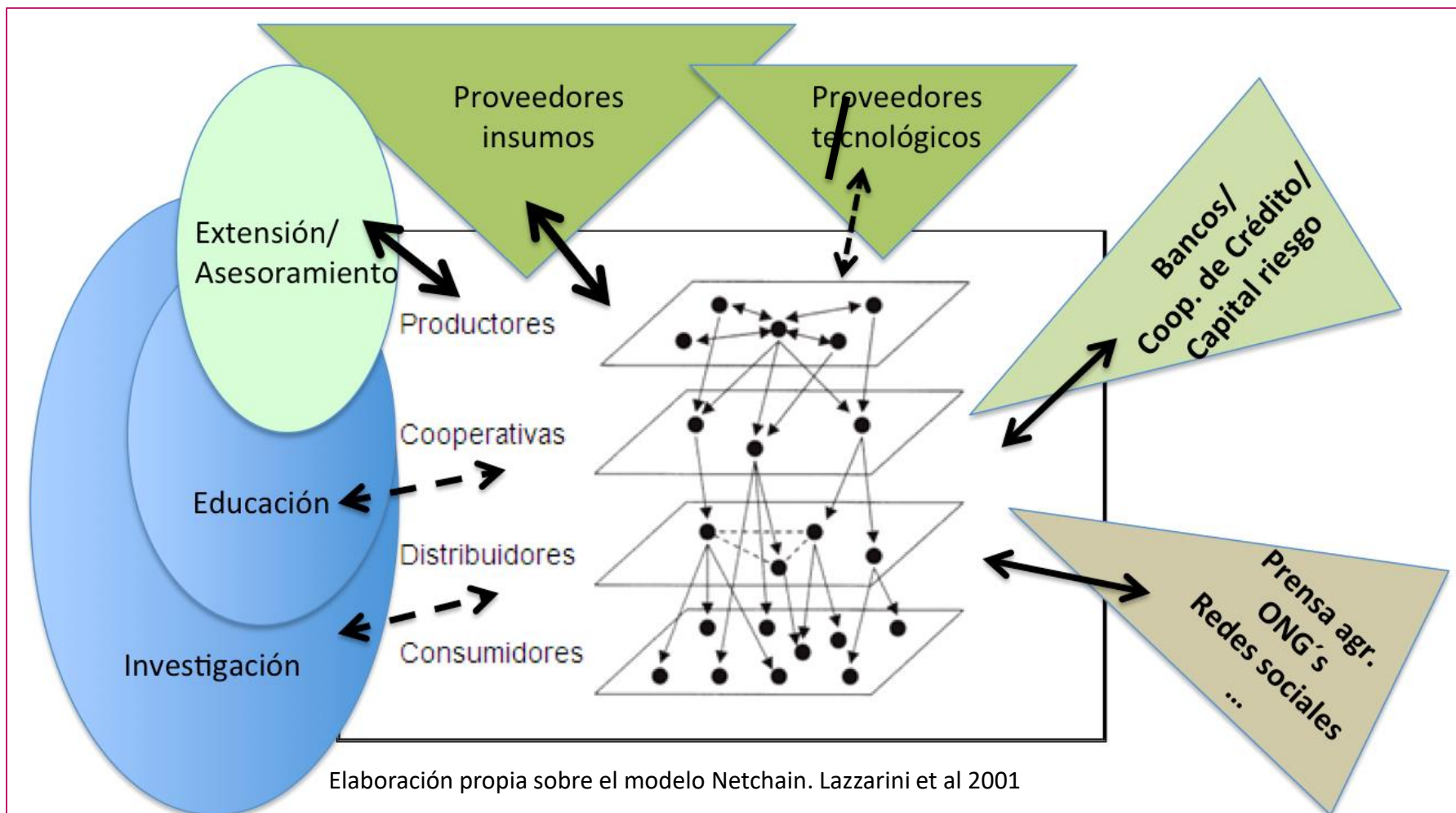
Many thanks
Questions?
@monteroaandres